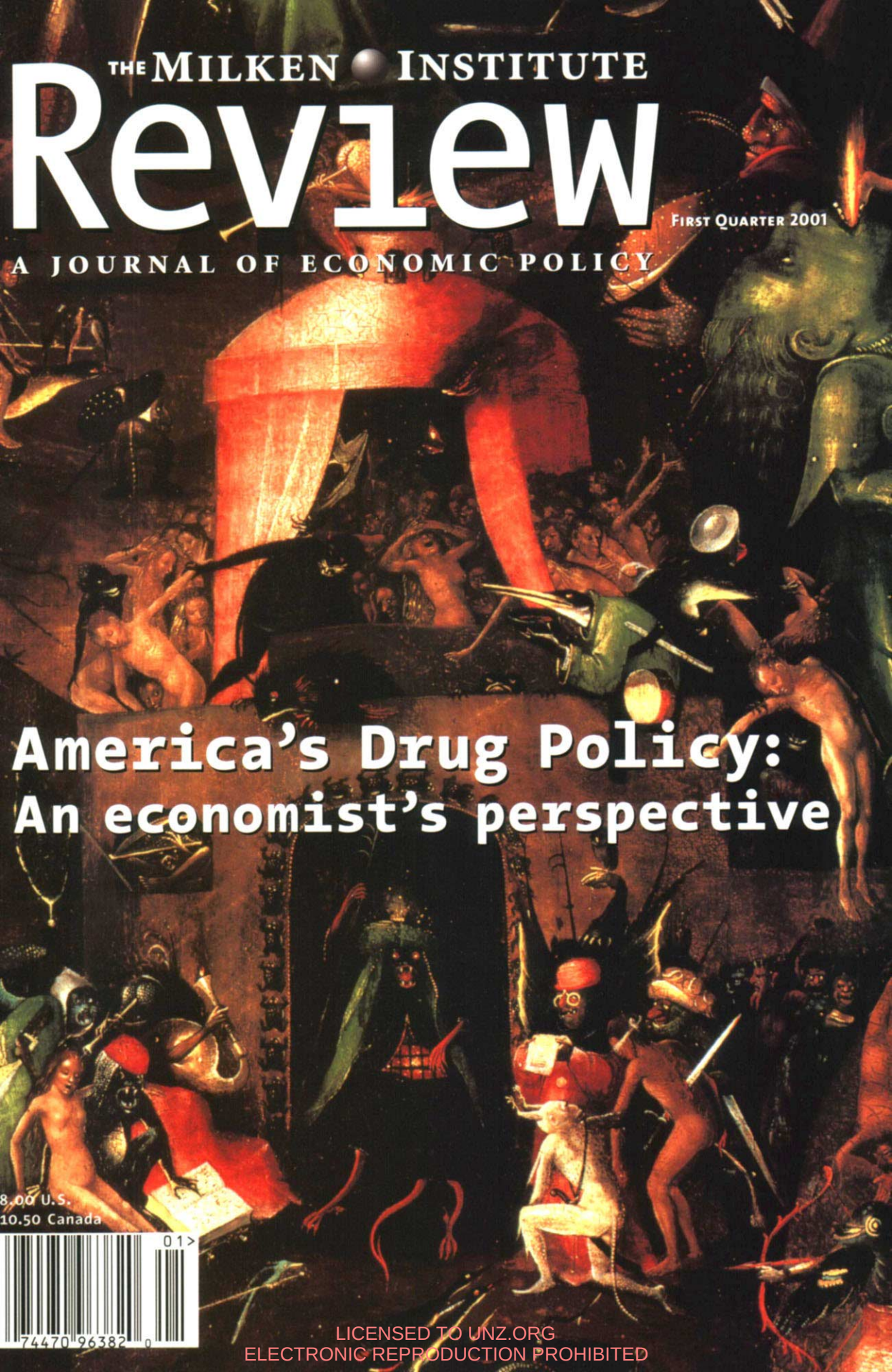




THE MILKEN INSTITUTE

Review

FIRST QUARTER 2001

A JOURNAL OF ECONOMIC POLICY

America's Drug Policy: An economist's perspective

\$8.00 U.S.
\$10.50 Canada



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THE MILKEN INSTITUTE REVIEW • FIRST QUARTER 2001

VOLUME 3, NUMBER 1

THE MILKEN INSTITUTE

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ISSN 1523-4282

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The Milken Institute

Santa Monica, California

The Milken Institute Review is published quarterly by the Milken Institute to encourage discussion of current issues of economic policy relating to economic growth, job creation and capital formation. Topics and authors are selected to represent a diversity of views. The opinions expressed are solely those of the authors and do not necessarily represent the views of the Institute.

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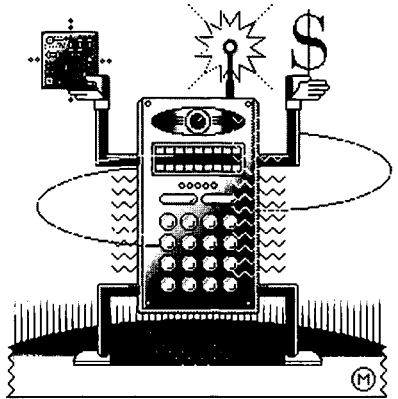
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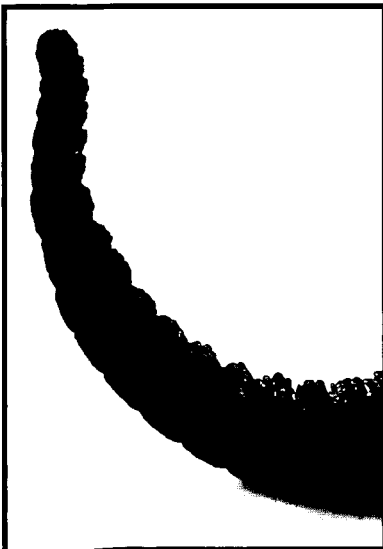
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I don't want to sound cocky or nothin', but this is one swell issue. And after an introductory sentence like that – designed, I might say, to drive our copyeditor wild – the magazine plainly has nowhere to go but up. Seriously folks, where else are you going to find a bunch of dismal scientists pontificating about everything from the Internet to baseball to cocaine?

Irwin Stelzer, a senior fellow at the Hudson Institute and columnist for *The Sunday Times* (London), weighs in on lessons forgotten since President Carter took to wearing sweaters on television and premium gasoline hit \$2.00 a gallon. “The first step in an energy policy that aims to bring the price of oil closer to free market levels might well be to explain to the Mexicans that they cannot hope to sell the output of their *maquiladoras* to us, unless they also offer us oil at competitive prices,” he writes.

Peter Reuter, an economist at the University of Maryland's School of Public Policy, looks more in sorrow than in anger at America's bankrupt strategy for reducing the consumption of illicit drugs. “U.S. policies are heavily supply-side oriented – that is, they aim primarily to increase the price and restrict the availability of illegal drugs,” he explains. “These control efforts seem helpless to make cocaine or heroin more expensive or less accessible.”

Robert Hahn, the director of the American Enterprise Institute-Brookings Joint Center on Regulatory Policy, asks whether traditional antitrust policy makes a good fit with what is casually called the New Economy.

“Economists have offered a new framework for thinking about these problems,” he explains. “But it is only a framework – concrete measures for implementing the framework are in short supply.”

Jagadeesh Gokhale, a senior economic adviser at the Federal Reserve Bank of Cleveland, and **Larry Kotlikoff**, an economist at Boston University, take a hard look at the federal budget surplus and pronounce it an illusion. The cash now flooding the United States Treasury is only a drop in the bucket compared to the impending demands of retiring baby boomers. Indeed, they conclude that “under realistic assumptions about the future course of federal discretionary spending, Washington is likely to create fiscal imbalances that would require future Americans to sacrifice an extra two-fifths of their lifetime earnings.”

Edgar Feige, a professor-emeritus of economics at the University of Wisconsin (Madison) and an expert on the underground economy, wonders whether it isn't time to try for truly radical tax reform – a ground-up fix that takes advantage of the trend toward electronic payments and minimizes distortions in incentives to work and save. “The automated

payment transaction approach would extend the tax base from income, consumption and wealth to all transactions,” he explains. “It can be viewed as a public brokerage fee assessed by the government to pay for the provision of the monetary, legal and political institutions that facilitate and protect market trade and commerce.”

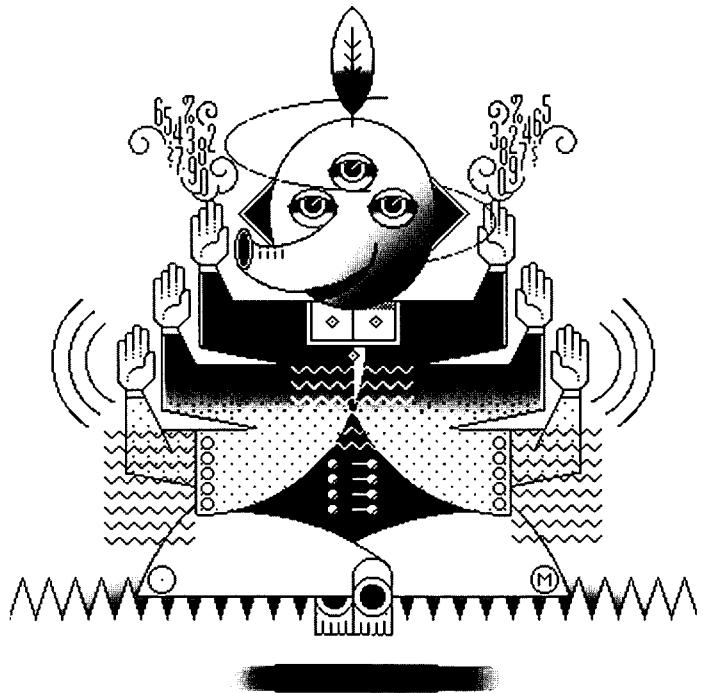
Andrew Zimbalist, an economist at Smith College, considers Major League Baseball’s efforts to create a level playing field for small-city franchises – without disturbing the unstable balance of power between the club owners and the players’ union. Failure to address the issues squarely, he says, puts the game in economic peril. “Despite the unveiling of several new stadiums, and successful assaults on the single-season home run record, baseball’s attendance per team has leveled off and television ratings for both in-season and post-season games have continued to drop,” he writes. “Outside of New York there was near apathy about the media capital’s vaunted subway series this past fall.”

This issue’s book excerpt is from **Jim Rohwer’s** *Remade in America* (Crown).

Rohwer, a senior contributing editor at *Fortune*, analyzes the ways in which Asian economies are adapting in the wake of the 1997-98 crash. And in this excerpt, he explains how Asian nations, in general – and Japan and India, in particular – are poised to take advantage of the Internet. “Asia is better placed than almost any other region to profit from the spread of the Internet,” he writes, “because of what Asia has been good at: the manufacture and sale of export-oriented

goods,” and paradoxically, “because of what it has been bad at: services and distribution.”

Robert Levine, a senior economic consultant at the RAND Corporation, speculates about the sources of American economic leadership. “The overwhelming reason for the U.S. lead is American entrepreneurship, and the causes for that advantage lie deep in geography and history – and in the culture stemming from that history,” he writes. “The old world may strain for ways to close the enter-



prise gap. But America’s advantage is so fundamental that it is hardly likely to lose the lead in the foreseeable future.”

Yes, there’s more. This issue’s charticle as- says progress in the aforementioned Asian re-covery. The Institute View summarizes new insights on the forces driving corporate take-overs. And, of course, cartoonist **Mark Alan Stamaty** punctures egos with *Ekonomix*.

— Peter Passell

THE U.S. ENRICHMENT CORPORATION RESPONDS

For me, "Uranium Blues" (by Richard Falkenrath, Fourth Quarter 2000) is a classic case of "déjà vu all over again," as Mr. Falkenrath has been publicizing the same views over and over in numerous venues for the past five years. While the facts run counter to his position, that never seems to deter him from ignoring the reality that the Russian highly enriched uranium (HEU) program is working well. In spite of all the historical intrigue he cites, and his constant dire predictions of impending doom, the program is successful.

Last April, the General Accounting Office (GAO) was directed by Congress to review the implementation of the 1993 Megatons to Megawatts agreement. Based on its investigations, the new GAO report states, "USEC has consistently paid Russia for deliveries of low enriched uranium and accepted shipments in a timely manner. By doing this, USEC has satisfactorily carried out its responsibilities as executive agent for the United States."

For those of your readers who care more about results than colorful accusations, here are the actual facts pertaining to USEC's commercial implementation of the Megatons to Megawatts program:

- The equivalent of over 4,000 nuclear warheads has been converted to power reactor fuel, and purchased from Russia by USEC for use by its customers.
- Implementation of the Megatons to Megawatts program is ahead of the schedule for quantities and dates that was set out in the

original government-to-government agreement and implementing contract. All shipments interrupted by Russia have been resumed, completed and/or accommodated by mutual agreement. One-fifth of the 20-year program for conversion of 500 metric tons of HEU has been completed.

- Megatons to Megawatts enriched uranium purchased from Russia now accounts for nearly half of USEC's product mix.
- USEC has paid Russia more than \$1.5 billion to date for purchases of enriched uranium derived from dismantled Russian nuclear warheads. These funds have been used to keep Russian nuclear workers employed and for other nuclear security and environmental restoration activities in Russia. New market-based contract terms for the implementing contract are expected to go into effect in January 2002. The terms have been agreed upon by the two executive agents and are awaiting approval by both governments.
- An Enrichment Oversight Committee (EOC), appointed by the President in 1998 prior to privatization, directs the Megatons to Megawatts program and oversees the activities of the government's executive agent. Chaired by the National Security Council, other members include designees from the Departments of State, Treasury, Defense, Justice, Commerce and Energy, the Office of Management and Budget, the National Economic Council, the Council of Economic



Uranium Blues

Economic Interest Vs. National Security

By Richard Falkenrath

How could the impulse to privatize a federally owned enterprise undermine the urgent goal of dismantling post-Soviet Russia's vast stockpiles of nuclear weapons?

When a Democratic-controlled Congress and the Bush Administration agreed in the early 1990s to sell off America's two giant plants for making commercial nuclear reactor fuel, advocates of privatization never looked beyond the political advantages in

making government a little smaller and making the Treasury a little richer. But it is now quite plain that the privatization of the little-known and less-understood United States Enrichment Corporation – USEC, for short – has fragmented America's anti-proliferation efforts, and putting the pieces back together will not be easy.

First, some basics. Nuclear fission makes big explosions, or lots of heat in a contained

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Advisers, and the intelligence community.

- USEC reports to the EOC through the National Security Council. All negotiating positions and significant activities pertaining to implementing the agreement are coordinated with and reviewed by the EOC. The EOC can replace the executive agent at any time or appoint additional agents to implement the HEU deal.

Clearly, the Megatons to Megawatts program is working well in spite of the persistent predictions of doom and failure by Mr. Falkenrath and others. USEC and its Russian partners have a productive seven-year relationship and a history of overcoming problems by working together, outside the spotlight. A tremendous amount of Russian nuclear weapons material has been eliminated through conversion into fuel to generate electric power. The partners have agreed to new contract terms to govern the remaining 13

years of the agreement, which will result in the elimination of the equivalent of over 20,000 nuclear warheads. This is an impressive national security accomplishment, implemented by the private sector with ongoing review and input by the national security apparatus of the federal government.

Megatons to Megawatts is a national security success story. Many dedicated people in the U.S. and Russian governments have labored long and diligently to develop this program and to keep it working. We are proud of the role we play as executive agent and of the strong, cooperative and productive relationship we have with our Russian counterparts. We believe that the performance record is the best way to judge success.

Charles B. Yulish

*Vice President, Corporate Communications
United States Enrichment Corporation*

BY IRWIN STELZER

There is a shortage of electricity in California. There is a shortage of natural gas in New England. There is a shortage of crude oil, worldwide. So, are environmentalists, who have been predicting that profligate use of energy will cause us to run out of fossil fuels, finally being proved correct? Should we now heed their pleas to substitute the long arm of government for Adam Smith's invisible hand as the determinant of who uses energy, and how much?

Hardly. What we are witnessing is not the failure of free markets to balance the supply and demand of energy, but the consequences of some quite natural, transitory economic forces and impediments to competition. In all energy markets – even those allowed to operate without artificial constraints on supply – there is an inevitable lag in adding to our usable resources. Gas fields can't be mapped out and tapped the moment economic growth produces an increase in the demand; neither can oil reserves. And power plants, even small ones, can't be sited and built the day that the thermometer leads everyone to turn the air conditioner knob to max.

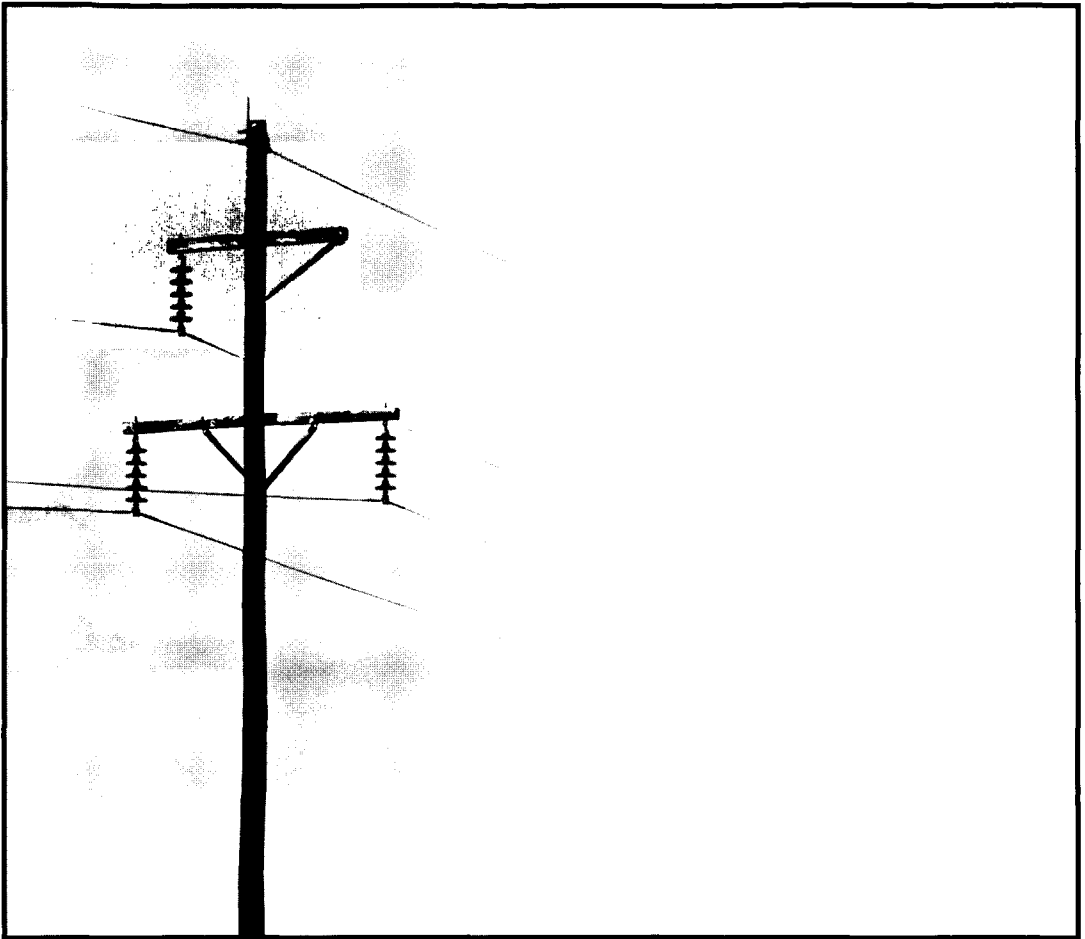
If such lags entirely explained the current problem, the proper policy would be the one Ronald Reagan allegedly promoted with great success – “Don't just do something, stand there.” But unfortunately, they are not the only (or even the principal) reason energy policy is once again on the front burner. The

proximate cause for renewed interest is that energy prices are rising at a rate that consumers, and therefore the politicians who seek their favor, find unpleasant. Crude oil has gone from \$10 a barrel to approximately \$30, causing a hike in gasoline prices that adds 50 cents a gallon to increases recently generated by new regulations from the Environmental Protection Agency. Natural gas prices recently hit levels three times those prevailing last year, causing much pain as the winter heating season blows in. Electricity prices in California have soared to levels that prompted renewed calls for caps on what the power utilities may charge end-users for the pricey juice they are buying in the wholesale market.

But prices are a symptom, no more a cause than fever is the cause of the flu. The problem is that “powerful forces,” to borrow a term from Al Gore, are at work to prevent markets from working as competitive markets can and should. Those powerful forces are us – or the politicians we elected to make energy policy, domestic and foreign.

Start with electricity prices in California, a state that faces power shortages in the low-use

IRWIN STELZER is a senior fellow at the Hudson Institute in Washington and a columnist for *The Sunday Times* (London).



winter season and will possibly see rolling blackouts next summer. The problem is a lot less complex than meets the eye. The architects of the California electricity market that replaced the traditional regulatory regime designed a Rube Goldberg contraption that had not the slightest chance of functioning anything like a competitive market that relies on price to balance demand and supply.

The designers began by making certain that most consumers would remain ignorant of what they are paying for the electricity they are currently consuming. They also erected effective barriers to new entrants and prevented free dealing by sellers and buyers,

requiring them instead to filter their offers through a central agency. They prevented wholesale electricity buyers and sellers from hedging or negotiating long-term contracts. They blocked the construction of new generating capacity. And their fellow policymakers demanded that one important supplier of hydropower put the welfare of young salmon in the north over the needs of aged humans in the south.

Having designed this wondrous machine, the policy gurus now profess surprise that a system thus constructed produces peculiar results. In fact, it is a textbook case of the consequences of keeping consumers ignorant of

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rising costs while simultaneously restricting supply artificially in the teeth of rising demand. And make no mistake: the constituency in California in favor of continuing to impede the construction of new power plants extends well beyond those who place environmental considerations above all other values. For example:

- Cisco Systems, an omnivorous consumer of electricity both directly and through the products it sells, is leading the opposition to new generating capacity located near its headquarters.
- To placate consumers, the governor would impose price ceilings that would lead several prospective entrants to cancel their plans to supply electricity to California.
- The state's citizens overwhelmingly voted for presidential candidates (Al Gore and Ralph Nader) who oppose the construction of new power plants.

He who sows the wind shall inherit the windmill, rather than more economic sources of much-needed generating capacity.

The electricity miasma can only be cleared if politicians are willing to add a liberal dose of laissez-faire to the policy mix. And thus far, they have shown no inclination to do so, preferring to move toward a state-organized cartel in which administrators fix prices.

Which brings us to the oil market, where a more muscular version of the invisible hand would go a long way toward protecting consumers and the world economy from a government cartel that sets prices. It is difficult to overstate the importance of the problem created for America by the revival of OPEC.

The ability of the producers to subvert markets by constraining output threatens the ability of the consuming nations to sustain both economic growth and stable prices. Equally dismaying, the oil cartel undermines

America's ability to conduct an effective foreign policy. Even policymakers bolder than the Clintonauts cannot help feeling constrained by our economic dependence on volatile nations in the Middle East and, lately, in Latin America. In short, we are facing an economic and foreign policy challenge from a cartel that has found new cohesion and that is keeping the price of crude oil many times above the cost of finding, developing and producing new supplies. It is able to do this because of a coincidence of several events.

- The long-running American economic expansion came with a modest recovery in the economies of Europe and resumed economic growth in Asia, pushing up the demand for oil at unexpected rates.
- Embargoes on oil from Iran, Libya and Iraq have reduced world supplies.
- The pressures unleashed by \$10-a-barrel oil brought the Middle Eastern and other producing nations together as mere appeals to unity could never have done.
- Mexico decided that it could persuade Saudi Arabia and Venezuela to cut back production by promising not to fill the gap such cutbacks would create in the United States. Mexico, in effect, joined OPEC.
- Venezuela came under the control of an anti-American populist determined to change the distribution of the world's income in favor of developing nations.
- American policymakers, in pursuit of environmental objectives, decided not to develop the nation's own oil resources to their fullest, to make it somewhere between difficult and impossible to build new oil-processing facilities, and to make the use of coal increasingly difficult and expensive.

One plausible response would be to do nothing. After all, cartels have a history of tanking when members are tempted to cheat on their quotas or when high prices attract



In short, we are facing an economic and foreign policy challenge from a cartel that has found new cohesion and that is keeping the price of crude oil many times above the cost of finding, developing and producing new supplies.

nonmembers into the industry. But the new-found cohesiveness of OPEC, and the capacity it has recently exhibited, create two problems for such a passive strategy:

- While waiting for the cartel to collapse, American consumers would pay a very substantial toll in the form of slower growth and higher inflation.
- Although there remain substantial undiscovered reserves of oil in non-OPEC areas, it is not safe to rely on new entrants to drive down prices while incumbents sit on vast low-cost reserves. Potential newcomers to the oil game are well aware that, should

their exploration activities threaten the cartel, it can open its valves and make their projects uneconomic. That doesn't mean drillers are completely insensitive to higher prices, but it does suggest that they will respond more slowly to oil price run-ups than they would if the threat of OPEC retaliation did not loom over their spreadsheets.

So, too, with developers of alternatives to oil-using technologies. They have long complained that it is difficult to get financial backing because potential investors know that the cartel can always force down oil prices and transform promising alternative technologies

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into money losers. Which is one reason, when prices soared above \$30, that the Saudis began very publicly contemplating increasing output sufficiently to bring prices down to \$25.

The Saudis, with almost 100 years of proved reserves, will do what it takes to discourage investors in new technologies from seizing their markets. Although the development of alternatives to oil as an automotive fuel are likely to continue – ironically, California regulators remain determined to force drivers to shift from gasoline to scarcer electricity – these and other oil-conserving technologies face an uphill battle in the teeth of OPEC's ability to change the economics of these alternatives from attractive to dismal.

Passivity is thus not an appropriate policy. One alternative is to rely on the domestic Strategic Petroleum Reserve as a counter to OPEC. But history suggests two reasons why efforts to use the SPR to keep prices closer to competitive levels will not work.

First, the private sector is likely to reduce its own inventories in parallel with the government's additions to the SPR. Private companies hold inventories for a variety of reasons: to protect customers in the event of a supply interruption, to ensure the steady operation of refineries, and to profit from price spikes during periods of increased demand. But if the government stands ready to be the supplier of last resort, the incentive to incur the costs of excess inventory is reduced. Which seems to have been what happened in the 1980s, when the growth of strategic stockpiles in the major oil-consuming countries was fully offset by declines in private inventories.

Second, strategic reserves are difficult to manage. We have pumped some 570 million barrels into storage – a few months' worth of imports – but have never quite figured out

how to use it. Recently, Washington released a few barrels, only to find that it did not know how to conduct an auction, and that OPEC could credibly threaten to reduce its output barrel-for-barrel to match the drawdown.

Policymakers, from the President on down to officials at the Department of Energy, have held that the reserve is to be used only when storage tanks are empty, gasoline stations are closed, and residents of the Northeast are reduced to heating with wood-burning stoves. The reserve remained untouched even during the Gulf War because the wise men advising Bush the Elder decided that the doubling of oil prices did not constitute an emergency.

If doing nothing is too costly, if relying on the SPR would represent the triumph of hope over experience, and if past government interventions in energy markets have proved a colossal waste of resources, what can be done? We could design a policy aimed at making oil markets work better – a policy that does not rely on rationing on the demand side or subsidies on the supply side.

On the demand side, that means making the prices reflect all of the costs (private and social) associated with use. On the supply side, a market-oriented energy policy must seek to eliminate or, if that is impossible, counteract artificial constraints on the ability and willingness of suppliers to respond to price signals.

Consider the latter first.

We might begin by re-examining policies that make private oil storage expensive and restrict both domestic exploration and production. It might have made sense to ban offshore drilling and Arctic exploration when oil was selling for \$10 a barrel, and the value of the potential output was arguably below the environmental costs associated with the development of resources on the fragile tun-



dra. But the calculus may not hold when potential output is valued at \$30 a barrel. Although calculations showing that the environmental costs of opening now-restricted areas are exceeded by the benefits of increased domestic production are unlikely to persuade the greenest of our greens, a newly staffed Environmental Protection Agency might well find such arithmetic persuasive. It's worth noting, too, that the Department of Energy recently trebled its estimate of recoverable oil reserves along the coast of Alaska's National Wildlife refuge to 10.3 billion barrels, which would represent an addition of at least one-third to America's oil reserves.

The next step to enhance supply would be to mount a credible attack on OPEC's output constraints. This would begin by recognizing that Mexico is a key player in the recent trebling of oil prices, and taking steps to per-

suade our southern neighbor that such behavior is not in its long-term interest. Although not a member of OPEC, Mexico proudly announced that it had brokered the deal between Venezuela and Saudi Arabia that limited output and triggered the price rise. This deal, in which Mexico agreed to rein in sales to the United States, cleared the way for OPEC's agreement to close its valves.

Why is the American government, which bailed out the Mexican economy when the peso collapsed and has bestowed the benefits of the North American Free Trade Agreement on Mexico, reluctant to read the riot act to President Vicente Fox? It is true that the benefits of Nafta are not Mexico's alone; American consumers gain from the international division of labor. But sometimes policy trade-offs must be made. And it would seem that the first step to bringing the price of oil closer to

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free-market levels might well be to explain to the Mexicans that they cannot hope to sell the output of their *maquiladoras* to us unless they also offer us oil at competitive prices.

A similar effort to induce an increase in supplies might be applied to Kuwait, a nation on which Saddam Hussein still has designs.

the world's oil reserves (with 3 percent, 10 percent and 10 percent, respectively). Reasons for pressing our balky allies to continue the embargo against Iraq remain as strong as ever. But relaxing the embargo against Iran just might prove justified if a deal could be struck with that increasingly hard-pressed country. After years of underfunding, Iran's

Every \$5 increase in the price of a barrel of oil knocks 0.3 percentage points off the GDP. That suggests that the recent run-up will cost us something like \$80 billion.

Kuwait possesses about 10 percent of the world's proved reserves of oil, but accounts for just 3 percent of world output. It is one of the few OPEC members with large amounts of spare production capacity, giving it the ability to turn on the taps on short notice. Put another way, the country that we saved from destruction while its ruling family waited out the war at the Dorchester in London could produce oil at current levels for well over a century without discovering another barrel. We might even consider establishing a policy that relates our contribution to Kuwait's defense to the level of oil output set by the Kuwaiti royal family.

Again, we face a trade-off. If we threaten to abandon the Kuwaitis, we threaten ourselves with the loss of the country's oil. But the consequences to us would be some inconvenience; the consequences to the Kuwaitis would be annihilation. Guess who would blink first.

Another plank of a sensible supply-enhancing energy policy would involve a review of our economic sanctions. Libya, Iran and Iraq account for almost one-quarter of

oil industry is badly in need of investment simply to maintain its production capacity. It is in our interest as well as Iran's to increase the country's reserves and its capacity to pump them – but only if Iran agrees to lift of the ban on American oil company investment and to step up output sufficiently to bring world oil prices closer to the marginal cost of development.

Then there are our antitrust laws, statutes from which the Arab and other oil producers have been uniquely exempt for political reasons. There is little doubt the laws could be used to prosecute the cartel members. After all, the Department of Justice has successfully brought actions against German, Japanese and French cartels in products as diverse as citric acid, vitamins, fax paper and the amino acid lysine. In most of these cases the cartelists had no offices in America; they merely sold products here. Indeed, in the case of fax paper, the United States Court of Appeals for the First Circuit has upheld the Antitrust Division's suit against Nippon Paper, a company that did not sell directly to the United States but fixed the prices of those who did.

American law grants foreign sovereigns immunity from antitrust prosecution, and grants similar immunity to companies acting under the compulsion of foreign sovereigns. But that law is no real barrier to prosecution if there is a will to move against OPEC. For one thing, the so-called commercial-activity exemption allows the Justice Department to proceed if it decides that the sovereign governments are engaged merely in commercial activity, like selling oil, which OPEC euphemistically contends is a matter of the preservation of national patrimony, not just commerce. For another, the exemption could be repealed.

Such a move would permit the trust-busters to take action against the Saudis and other producing countries, all of which have substantial assets in America that could be attached to satisfy legitimate claims. But a variety of political considerations has prompted the State Department to stay the Antitrust Division's hand – though what we have gotten in return from countries that persist in conspiring to elevate the level of world oil prices is difficult to discern.

Finally, consider the demand side of the oil equation. The first step would be to make certain that the prices consumers pay for oil reflect the marginal cost they are imposing on society by virtue of their consumption. If market prices do not reflect the full cost of use, measures might include increased taxes on oil, with the proceeds used to reduce marginal income tax rates and other initiative-stifling taxes. If it is indeed the case that oil embargoes or cartel-induced price run-ups threaten dire macroeconomic consequences, the risk and cost of such events should be reflected in the price of gasoline and other petroleum products.

Richard Berner, chief United States economist at Morgan Stanley Dean Witter, esti-

mates that every \$5 increase in the price of a barrel of oil knocks 0.3 percentage points off the GDP. That suggests that the recent run-up will cost us something like \$80 billion, and, according to Mark Zandi of Economy.Com, will add one percentage point to the inflation rate. This may not be a problem when the economy is booming, but in the less-pleasant economic circumstances that many predict await us this year, the loss of \$80 billion would have quite noticeable consequences.

Besides, if we chose higher oil prices as the means of slowing an overheating economy, it would be far wiser to raise taxes on oil (and, I repeat, keep those funds from spendthrift politicians by reducing other taxes in parallel) rather than to allow OPEC to do the equivalent by raising prices. Better the money flow to our Treasury for recycling than to have it finance terrorist groups or the construction of more Middle Eastern palaces, or be spent on efforts to keep Saudi Arabia's fragile commonweal in one piece. We could also determine whether demand-side measures that were uneconomic when oil was at \$10 a barrel are worth pursuing when prices are two or three times that level. Keep in mind, though, that if we get the price of oil right – including all costs associated with its use – there is little rationale for further government action.

It should be emphasized that none of the components of the market-oriented energy policy I have described involve price controls or subsidies to producers of oil or alternative technologies. Such policies have failed in the past, and would be virtually certain to fail in the future. But a program to introduce more competition by weakening the cartel, to enhance supply by insisting on reciprocal decency by our allies and trade partners, and to adjust environmental and tax policies to the new reality of the increased cohesiveness of OPEC, could make a big difference. ■

The Limits of



Supply-Side Drug Control

By Peter Reuter

For the first time in a generation, we have observed a drug-free presidential campaign. Notwithstanding the confessions of youthful marijuana use by Vice President Gore and the ambiguous statements about not-quite-so youthful use of perhaps-more-dangerous drugs by Governor Bush, neither candidate felt compelled to make more than a passing reference to drug policy. Given the dedication of center and right politicians to interdiction-based “supply-side” controls, this is perhaps just as well for all of us.

American drug policy has been frozen in place since crack cocaine hit the cities in the mid-1980s. Those policies are punitive (in both rhetoric and reality), divisive (certainly by race, probably by age and perhaps by class), intrusive (in small ways for many and in large ways for some) and expensive (\$30 billion to \$35 billion annually). Yet the nation has a drug problem more severe than that of any other rich Western society, whether measured in terms of the extent of drug use, drug-related AIDS cases, or the level of violence and corruption associated with these drugs. Roughly speaking, those other Western nations troubled by drugs (like Australia or Italy) have a per capita heroin problem about the same size as the United States, and a problem with cocaine or amphetamines that is vastly smaller than ours.

The United States’ policies are heavily supply-side oriented – that is, they aim primarily to restrict the availability of illegal drugs. Though drugs are indeed extraordinarily expensive compared to the cost of production and somewhat difficult to get, these control efforts seem helpless to put cocaine or

SKIP O'ROURKE/THE IMAGE WORKS

DRUG CONTROL

heroin beyond the reach of millions of consumers. The irony is that supply-side enforcement probably has much of its effect through demand-side mechanisms: incarcerating cocaine or heroin dealers is one way of limiting demand, since the majority of those who sell these drugs are also frequent users.

SCALING THE PROBLEM

Seen from one perspective, the American drug problem is narrow and static. No more than two and a half million Americans have substantial problems with cocaine and/or heroin – less than one-fifth the number for alcohol. Those with problems are heavily concentrated in urban minority communities. Methamphetamine abuse remains a much smaller problem, while marijuana dependence, a real phenomenon involving many more people, has much less consequence for those who experience it.

The epidemics of cocaine and heroin addiction have essentially run their course. There have been few new heroin addicts since the early 1970s (notwithstanding patchy indications of increasing heroin use among young middle class adults) or cocaine addicts since the mid-1980s. The addict population is getting older and sicker, though it is still criminally very active; the average age of heroin addicts is now about 45. With early deaths and increasing incarceration, the number of active cocaine and heroin addicts is very slowly declining. Marijuana use has risen among adolescents; whether that presages a new epidemic of cocaine, amphetamine and/or hero-

in use remains to be seen.

The most striking characteristics of the United States' response to illicit drugs in the last decade, as already noted, have been its scale and its punitive nature. The federal government spends about \$18 billion annually on drug control, which is carried out by almost all the cabinet departments, from the Department of State to the Department of Education. States and localities spend at least as much, although it is far more difficult to obtain accurate estimates of these expenditures. Thus, illicit drug control was a roughly \$35 billion government program in the late-1990s, up sharply from \$10 billion in the mid-1980s.

The emphasis on punishment is reflected both in budgets and the extent of incarceration. At least three-quarters of the money to combat drug use is spent on apprehending and punishing drug dealers and users.

And despite substantial rhetorical shifts, the federal drug budget has hardly changed its composition in a decade, and state and local governments provide minimal support for treatment or prevention. In terms of punishment, the imprisonment rate in the United States for drug offenses alone is much higher than the rates of most Western European nations for all crimes. For example, France imprisoned 95 per 100,000 in the population in 1995; that same year, the

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AP/WIDE WORLD PHOTOS



United States imprisoned 149 per 100,000 for drugs alone.

MARKET DYNAMICS

These numbers have meaning only against measures of the dimensions of drug trade –

measures that offer more insight than the fact that sales total \$50 billion annually. The vast majority of the hundreds of thousands of Americans imprisoned for selling drugs are from the bottom level of the distribution system. That is hardly surprising, given the sharp

The United States' policies are heavily supply-side oriented – that is, they aim primarily to restrict the availability of illegal drugs.



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pyramiding of the cocaine and heroin distribution industries. There are probably just a few hundred people with significant roles as importers. Roughly 400 tons of cocaine enter the United States each year, and since some criminal organizations handle 10 tons or more annually, not a lot of importers are needed. At the other end of the system, it is hard to come up with a figure less than 200,000 for the number of persons involved in cocaine retailing each year, at least on a part-time basis.

Back-of-the-envelope calculations suggest that a regular cocaine dealer might now spend one-third of his or her dealing career behind bars. A transaction has a tiny probability of producing time in prison – perhaps as little as one chance in 3,000. But, to borrow a phrase, the sellers make it up in volume. The crack trade seemed a bonanza to inner-city youth in the mid-1980s; a study of drug dealers in Washington, D.C. showed hourly wages of \$30 from dealing drugs, compared with around \$7 in legitimate employment. The returns now are meager – less than the minimum wage for the vast majority of dealers-users, as compellingly described by Phillipe Bourgois in *In Search of Respect: Selling Crack in El Barrio* (California University Press, 1996).

Why take these risks, which include violence at the hands of both competitors and collaborators, for such modest returns? As always, opportunity cost is likely to be an important part of the answer; 10 years of addiction and imprisonment make for low potential earnings in the legitimate labor market. Crime is often the only alternative for the many dealers who are 35-year-old high school dropouts. And what is known about the psychology and sociology of crime suggests they are relatively old to commit violent

crimes – which, in any case, are only marginally more profitable.

Prices

One of the mysteries of the last two decades has been the continuing decline of cocaine and heroin prices. Through the 1980s, enforcement apparently became much tougher, and the risk of being imprisoned as the result of being a regular dealer probably quintupled. Yet prices fell by about half. Since 1990, the street prices of heroin and cocaine have stayed constant in nominal terms (and declined modestly in real terms).

If tough enforcement did not raise drug prices, then it might still claim success if it lowered availability. But the data, mostly from surveys of high school seniors, show no decrease. For example, the percentage of high school seniors reporting that cocaine was available or readily available in 1999 (48 percent) was close to the 1991 figure (51 percent). For marijuana, the figure has remained between 80 and 90 percent without any discernible trend since 1975.

Prices have fallen and the drugs remain available to many teenagers. So why has there not been a new epidemic of cocaine or heroin use? The most plausible answer is the one that is least enlightening – fashion. Cocaine, once seen as exciting and not very harmful, is now viewed as dangerous; there are certainly enough miserable looking cocaine addicts on the streets of bad neighborhoods to make the case for the drug's perils to any moderately rational youth. Heroin can now be snorted rather than injected, overcoming the AIDS-fear barrier. But even in the era of heroin-chic fashion models, the drug retains a sense of menace for most. It would take a real shift in attitudes to start any major new upturn in these drugs.

Cocaine and heroin remain the dominant

sources of drug-related problems, both in terms of crime and health. There may have been no new epidemic, but the official estimates suggest that there has also been only a modest decline in total consumption of cocaine and none for heroin. Oddly enough, despite the inventiveness of back-street

problems. But source-country programs for cocaine are doomed from the start because the price of coca leaf is a negligible fraction of the retail price of cocaine in the United States.

It costs approximately \$300 to purchase the leaf needed to produce a kilogram of cocaine, which retails for about \$150,000 in

Through the 1980s, enforcement apparently became much tougher, and the risk of being imprisoned as the result of being a regular dealer probably quintupled. Yet prices fell by about half.

chemists, such new drugs as GBH and ketamines have still not built large and lasting markets, though ecstasy is on the edge of doing so. It seems reasonable to expect a big innovation to come along in the next decade. But current enforcement policies are unlikely to have much effect, in part because it is hard to develop effective monitoring systems that provide early warning for novel substances.

INHERENT LIMITS

The policy story, then, is a mixed one. The drug problem is not getting worse; indeed, it is very gradually lessening. But these gains have been accomplished at great costs in many dimensions. And there are no signs that more intense enforcement would yield further improvement.

Why have supply-side policies apparently reached their limits? The answer lies in the nature of the market.

Start with supply-side programs that attack production in the source countries. Though these account for a small share of the drug budget, they have always had a peculiar glamour and attraction to a culture that looks to Tom Clancy for solutions to public policy

the United States when sold in \$100 units of one gram each, two-third's pure. The modest share of costs associated with cocaine production is easily explained. Production involves cheap land and labor in poor countries; it requires no specialized inputs. Even Bolivia, the smallest of the three producer countries, occupies more than 500,000 square miles – much of it hard to subject to surveillance.

Cocaine refiners can pay what is necessary to purchase the leaf to meet cocaine demand. Assume that eradication efforts lead to a doubling of the price of coca leaf, so that it now costs \$600 for the leaf that goes into one kilogram of cocaine. The change in retail price, assuming the cost is passed along, will be negligible. Indeed, leaf prices have varied enormously over the last decade, while the retail price of cocaine has steadily fallen. If retail prices do not rise, then total consumption in the United States will not decline as a consequence of eradication. In this scenario, there will be no reduction in total production – just more land torn up to plant an environmentally damaging crop.

There is, of course, a less harsh source-country alternative to eradication: alternative

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development. Offer the farmers the opportunity to earn more money growing pineapples than coca and they will move the legal crop, the argument goes.

That argument, alas, is subject to the same incompleteness as that for eradication. It assumes that the price of leaf will not increase enough to tempt the peasants back to coca growing. But refiners have every incentive to offer a high enough price to get back the land and labor to meet the needs of the cocaine market in the developed world because the

price of leaf is so small compared with the street price. Peasants will be better off than before the alternative development, but only because they will make more money growing coca. Mexican peasants are substantially better off than those in Bolivia. Yet that has not kept them out of the drug production business. Indeed, the same can be said for Kentucky corn farmers, prominent in the marijuana trade in the United States.

In the face of this sobering economic logic, the supporters of the recent Colombia Initiative (delivering \$1.3 billion to Colombia

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over the next three years) point to the apparent success of the combination of eradication and alternative development in Bolivia and

Peru, where land under coca cultivation fell from 150,000 acres in 1992 to 60,000 acres in 1999. Certainly, United States support of aggressive efforts to reduce the flow of raw material from Peru to Columbia has helped to make Peru a less attractive source for Colombian refiners and traffickers. But two other changes, which fans of eradication and alternative development efforts do not talk about, are probably as important in explaining the decline.

First, there has been a huge internal migration within Colombia, with perhaps as many as 800,000 people moving away from areas where paramilitary forces have committed massacres to more remote areas where farmers have few commercial alternatives to growing coca. Second, Dr. Richard Vargas, a Colombian researcher, suggests that the breakup of the Cali cartel may have favored the rise of traffickers with less international reach – traffickers more

oriented toward buying their leaf or coca paste from Colombian sources. Consequently, as compared with 10 years ago, Colombia is a more attractive source of leaf, and production has shifted there.

This reflects the production industry's regional rather than national base. The location of production can change for many reasons including interdiction, but there is no evidence that any intervention has lowered total regional production. The package of interventions being implemented in Colombia has little chance of making an observable difference to the flow of drugs to the United States. There is one instance of crop eradication making a noticeable difference – namely the spraying of Mexico's opium fields in the mid-1970s. But the circumstances were sufficiently unusual (drought in many growing areas, a breaking of the French Connection and the withdrawal of the United States' troops from Vietnam, with its connections to the Golden Triangle) that we should probably pay more attention to the fact that it has been a quarter century since the last success than to the fact that it once worked.

Cocaine travels in large bundles in international shipping; seizures suggest that shipments of 250 to 500 kilograms (enough to supply 500,000 retail sales) are quite common. Though large sums may be paid to pilots for flying small planes carrying cocaine or to Honduran army colonels for ignoring



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their use of airstrips, these costs still represent a relatively small percentage of the landed value of the drugs. A pilot who demands \$500,000 for flying a plane with 250 kilograms is generating costs of only \$2,000 per kilogram – less than 2 percent of the retail price. Even if a half-million dollar plane has to be abandoned after one flight, it adds only another \$2,000 to the kilogram price.

For ocean shipments, seizure constitutes little more than a random tax collection. The replacement cost of the seized drugs is a fraction of the landed price, so high seizure rates have modest effect even on wholesale prices. Interdiction, in fact, seizes a quite high share – perhaps one-third – of the cocaine that is destined for the United States. Nonetheless, this still leaves plenty of product to support the large United States cocaine market at prices that are modest by historical standards.

Admittedly, it does cost \$10,000 to ship a kilogram of cocaine from Bogota to Miami, when Federal Express would charge only \$100 to deliver a kilo of something legal. And the fact that a semi-processed agricultural product like heroin costs 100 times as much as gold is quite astounding; it is hard not to attribute the differential to enforcement. Jonathan Caulkins, an operations researcher who has modeled cocaine markets, estimates that in a legal regime cocaine might retail for as little as \$5 a gram.

The real question, though, is not whether interdiction raises the price of illicit drugs, but whether it is possible through tougher enforcement to make the drugs much more expensive and less accessible than they are now. And to date, smugglers' adaptability has limited the success of interdiction surges.

Assessing the inherent limits of tough enforcement at the retail level is much more difficult. The supply curve for drug-selling

labor is probably shifting; not a lot of young kids want to compete with older sellers who take part of their compensation in drugs and thus gain a competitive advantage. The relatively strong demand for labor for legitimate pursuits in inner cities contributes here as well; legal employment is surely more attractive than it was 10 years ago.

Thus locking up a lot of dealers should make a difference. However, it apparently has not – unless one believes, against the evidence, that the price would have fallen even more in the face of less enforcement.

Much of the effect of enforcement against low-level dealers, where most of the money is spent, comes through the back door. Retail dealers are themselves heavy users of the drugs they sell. In the early days of the crack market, there was talk of high-level dealers maintaining drug-free workplaces. But those days are long past, a consequence of the aging market. So putting a dealer in prison has two effects: one on supply and the other on demand. And in contrast to the supply-side effect, that demand-side effect may be substantial: it's hard to replace old junkies.

Another factor accounting for the stability of prices may be the aging of sellers. As already noted, violent crime is for the young. A market of 35-year-old crack dealers is less likely to be dangerous than one with lots of 20-year-olds eager to try out their Mac-10s. Moreover, homicide itself and the locking up of violent offenders for long sentences has selected out some of the most violent dealers. Enforcement thus may be tougher. But, ironically, other sources of risk have declined as a consequence of that enforcement. A better understanding of market dynamics is needed to separate out these effects.

THE LIMITS OF THE DEMAND SIDE

Fairness requires an equally objective review

of demand-side programs, drug prevention and treatment. Everyone likes the idea of preventing kids from starting drug use or at least not going beyond experimentation. It appeals to the American preference for fundamental solutions rather than Band-Aids, and it is hard to think of negative side effects.

mainstream treatments seem to make a difference, too. The ratios of benefits to costs, even when discounted to allow for the biases of the evaluators, are reasonably high.

But it's tough to get most addicts to enter treatment in the first place. Building stronger drug treatment programs – programs not so

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Unfortunately, there is no reason to believe that we know how to immunize kids against drug abuse. A few experimental programs show promising results. But it is unclear how they would perform when scaled up and put in the hands of schools, which are already under pressure to spend more of their limited class time on basic academic subjects.

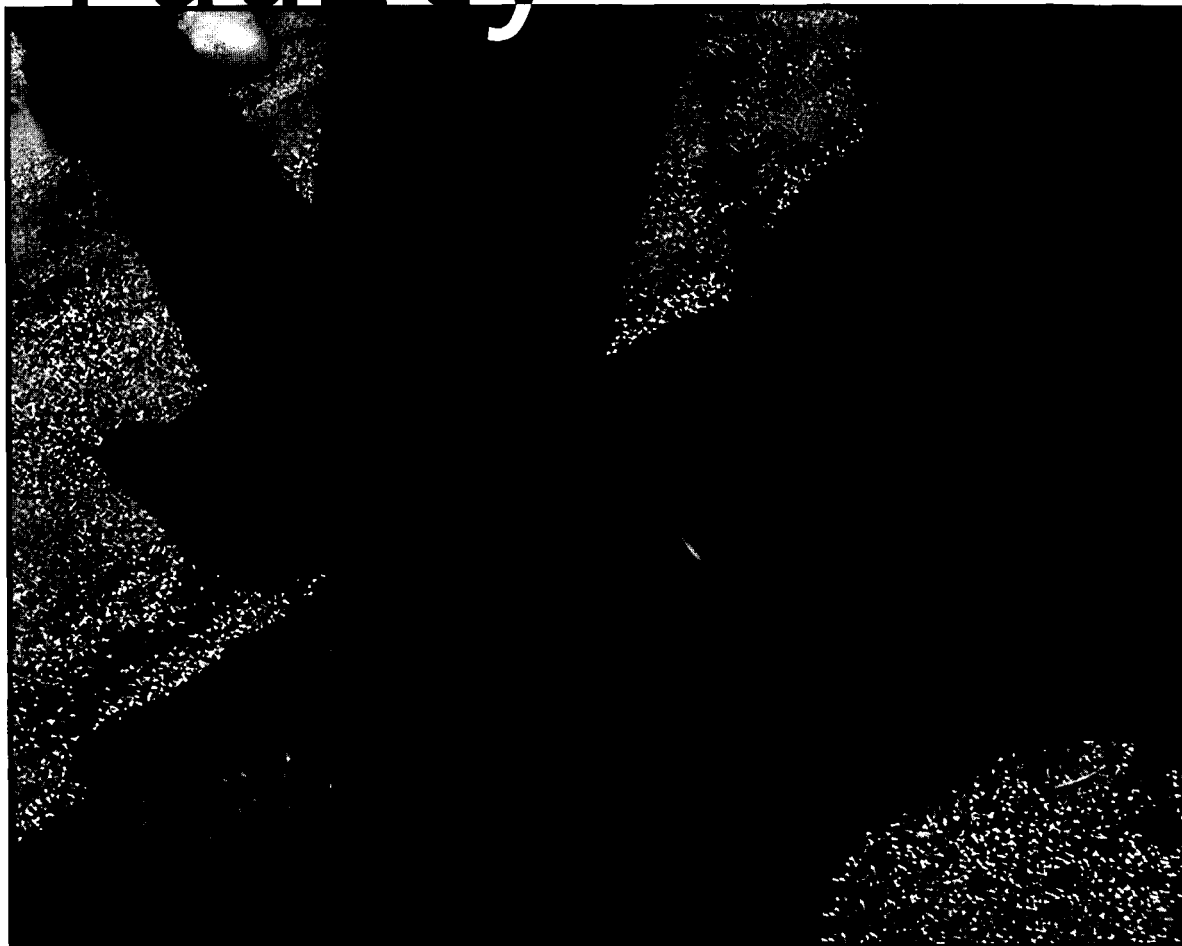
Moreover, the political marketplace for choosing antidrug programs is wretchedly inefficient. DARE, perhaps the only program that has been subject to frequent evaluations – all negative except those paid for by the DARE organization itself – remains the most popular choice of school districts throughout the nation. Mass media campaigns are notoriously difficult to evaluate. There is an absence of credible evidence on the high-profile media campaign financed by the federal government in the last few years.

The case for treatment is much stronger. Methadone unquestionably helps a substantial fraction of heroin addicts cut down on their use of expensive illegal drugs – which has a direct effect on crime rates. And other

marginalized by the health-care system – would no doubt help. It would be optimistic, though, to suggest that treatment could reduce America's drug problems by, say, as much as one-third in the next five years.

Like it or not, illicit drugs are now a permanent part of the American scene. As with other social problems, we must think less of eliminating the drug problem than of finding ways of managing it better. Both the rhetoric and legal reality of American policy deny that, and thus contribute to the broad social problem even if they reduce overall drug use. A policy that puts so many young, poor minority men and boys in steel cages needs a strong justification in terms of reducing cocaine and heroin use in order to justify the inequity and inhumanity. That justification has not been provided. California Ballot Proposition 36, which shifts nonviolent drug offenders into treatment, was not particularly well written. But it does represent an encouraging sign of Americans' revulsion with drug policies that fly in the face of common sense and justice. **M**

Faulty



Assumptions

On Surpluses, Deficits and Democracy

*By Jagadeesh Gokhale
and Laurence J. Kotlikoff*



Earthquakes happen with little warning. So we are lucky that policymakers in cities built on geologic faults understand the consequences well enough to make at least modest preparations to cope with the inevitable.

Would that equally candid appraisals characterized the U.S. government's fiscal prognoses. In fact, the government has done little to prepare us for the tidal wave of government pension and health obligations that will hit us over the next three decades, as some 78 million baby boomers retire. When that demographic tsunami reaches its peak, we'll have twice as many old people as we have today, and they will depend on only 15 percent more young workers for economic support. The country will look as old as present-day Florida and, barring major changes in immigration policy or fertility, will stay that way for the rest of the century.

Imagine if the demographic wave were to hit today. Our only recourse would be massive tax increases and benefit cuts that would drastically lower all Americans' living standards. Happily, we have a few years left to reinforce the fiscal foundations, but the emphasis here is on "few." The oldest baby boomers will start collecting Social Security benefits in just seven years and Medicare benefits in just 10.

Unfortunately, the assumptions adopted by the government to make budget projections highlight the rosier and most improbable outcomes. By focusing on near-term surpluses in cash flow, such projections distract from what's beyond the horizon and lull the public into complacency. Worse yet, the projections will probably induce lawmakers to change fiscal policies in ways that prevent much of the anticipated "surpluses" from materializing.

Three key federal agencies have provided optimistic "baseline" scenarios about our near-term fiscal future: the Congressional Budget Office, the Social Security Administration and the Health Care Financing Agency. The CBO, for example, is required by the Deficit Control Act of 1985 to make 10-year projections of federal surpluses under assumptions about federal discretionary spending that knowledgeable members of

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Congress privately admit are untenable. Moreover, the legal obligation to project out for only 10 years hides the huge Social Security and Medicare obligations lurking in the decades beyond.

The SSA and HCFA don't do much better. In particular, their (admittedly longer-term) projections are based on life-expectancy assumptions that the SSA's own technical panel strongly rejected just last year.

In sum, conventional accounting methods adopted by the three agencies make it impossible to produce a meaningful assessment of our long-term fiscal position. We believe that our alternative – generational accounting – is far more revealing. Under realistic assumptions about the future course of federal discretionary spending, Washington is likely to create fiscal imbalances that would require future Americans to sacrifice an extra two-fifths of their lifetime earnings.

Defining the problem is, alas, easier than conjuring a solution. Closing the fiscal gap through major income tax increases or significant cuts in Medicare and Social Security benefits would require sacrifices that no current politician appears willing to contemplate. And there's no particular reason to believe that's about to change. Indeed, our collective unwillingness to focus on long-term fiscal challenges seems hard-wired in the political system.

THE CBO'S \$5 TRILLION SURPLUS

How can one be so grim about the government's long-term financial prospects when the Congressional Budget Office expects the cumulative budget surpluses between now

and 2010 to total \$5.7 trillion? The CBO's projection is predicated on spending assumptions that no one in Congress takes seriously and upon which no responsible adult would risk his child's future.

Consider CBO's mandated projection in which federal discretionary spending – pretty much everything save the big retirement programs – remains fixed in current dollars through 2010. Under that scenario, discretionary spending would fall by one-third as a share of GDP. The fate of government isn't much different under CBO's other two scenarios – one in which spending is capped through 2002 and then grows with inflation, the other in which spending grows with inflation starting immediately. Under the cap scenario, discretionary spending in this prosperous society falls by 27 percent as a fraction of GDP. Under the inflationary-growth scenario, spending is still relatively anemic, falling by 16 percent as a fraction of GDP.

To be sure, the bean counters at CBO are upfront about the assumptions underlying the projections. But the public isn't reading the fine print; nor for that matter is the press. So the CBO has reinforced the belief that we are facing huge surpluses and that we can afford major tax cuts or spending increases. The counterpart of this, of course, is that the CBO's projections have convinced the public that there is no need to raise taxes, trim benefits or limit discretionary spending.

How much of the frozen scenario's \$5.7 trillion 10-year unified budget surplus disappears if federal spending simply holds its own as a share of GDP? A whopping \$2.1 trillion. Of the remaining \$3.6 trillion, \$2.4 trillion is "off budget" and supposed to be spent on Social Security and Medicare benefits. So what's left is only \$1.2 trillion – a hefty sum, but a far cry from the amount needed to cover the massive future deficits in Social Security

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and Medicare, let alone those from the rest of the government's operations.

To understand the magnitude of the tax increases or expenditure cuts needed to achieve generational balance – that is, the amount needed to clean up all the net fiscal obligations of current generations – consider the long-term financing shortfall in the Social Security and Medicare programs. Lest you think we're stacking the deck, we analyze the shortfall under the assumption that all off-budget surpluses will be strictly allocated to pay benefits to those programs' beneficiaries.

SOCIAL SECURITY'S RED INK

By now, most Americans surely realize that Social Security and Medicare face significant financing problems down the road. What they don't know is that these problems – more specifically, the actuarial deficits – are three times larger than the trustees of the Social Security and Medicare programs acknowledge in their annual reports.

Consider Social Security's old-age pension and disability program first. According to unpublished estimates by Social Security's actuaries, covering the full benefits now promised would require an *immediate and permanent* 4.7 percentage point increase in the program's 12.4 percent payroll tax rate. This number is more than twice the size of the 1.86 percentage-point Old-Age, Survivors and Disability Insurance (OASDI) trust funds tax

increase that the 2000 Social Security's Trustees' Report says is needed. And even it might not be enough; the figure assumes that Congress will be able to keep its hands out of the proverbial cookie jar for the next decade, dedicating all interim surpluses from the payroll tax to paying future benefits.

The multitrillion-dollar discrepancy between our number and the one trumpeted by the trustees is a consequence of the way they truncate the horizon of the financing projection. The Trustees' Report looks out only 75 years, whereas we consider the indefinite future. While 75 years may seem long enough, it stops the clock when there is little doubt that deficits will be exploding.

One consequence of the trustees' 75-year horizon is that the Social Security deficit is a moving target. Successive 75-year projections are guaranteed to look worse and worse over the coming few decades because each year that passes means that a high-deficit year in the eighth decade of the century will replace a surplus (or low-deficit) year in the first decade. As a result, the 75-year projection that we make, say, in the year 2020 will show a much larger financing shortfall unless taxes are raised or benefits are cut.

This is not a new problem. Recall that, back in 1983, a committee appointed by Congress and the President, and chaired by Alan Greenspan, was charged with saving Social Security for the foreseeable future. Congress



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subsequently passed a series of tax increases and benefit trims recommended by the commission that at the time were widely touted as a permanent fix. But the fact that Social Security is again hip-deep in red ink should not be a surprise. The mere passage of time and the resulting inclusion of 17 additional years of very large annual deficits guaranteed that the 1983 fix would not hold.

Even the aforementioned 4.7 percentage point increase in the payroll tax – a 38 percent rise – would probably not eliminate Social Security's true actuarial deficit. The 38 percent figure is computed using the actuaries' intermediate economic and demographic assumptions. But the word "intermediate" should not be confused with "most likely."

The Social Security Advisory Board's 1999 Technical Panel recommended changes in the assumed rates of longevity improvement, wage growth and interest rates. The most important of these changes involved projections of lifespan; the panel thought it prudent to increase life expectancy by four years more than the current, too-conservative estimates. In advocating this monumental increase – four years in which seniors draw pensions from the system – the Technical Panel pointed out that the actuaries were currently assuming it would take Americans another 50 years to reach the life expectancy already enjoyed in Japan.

The trustees paid some attention to the Technical Panel's recommendation. But not much. They chose to increase their life expectancy assumption by only one year. For they, too, are under political pressure to ignore the bad news as long as possible.

Indeed, overly optimistic Social Security forecasting is nothing new. Just one-third of the actuarial deficit incurred since the Greenspan Commission balanced the 75-year bud-

get was due to the inevitable replacement of surplus years with deficit years in the forecast horizon. The remaining two-thirds is divided roughly evenly between overoptimistic economic and demographic assumptions and methodological mistakes in forecasting.

All told, the 1999 Technical Panel's recommended assumptions would raise the Old-Age, Survivors and Disability Insurance tax increase needed to achieve true long-run solvency from 4.7 to almost 6 percentage points. *And in light of the current 12.4 percent tax rate, this translates into close to a 50 percent tax rise.* Stated differently, assuming it can tap its current trust fund assets, Social Security is short 40 percent of the funds it needs to deliver promised benefits.

MEDICARE'S RED INK

The payroll tax rate for Medicare hospital insurance (known as the HI, or Part A, program) is 2.9 percent. In contrast to the pension and disability tax, the Medicare tax is levied on all wage and salary earnings, not simply earnings up to a fairly modest Congressionally mandated ceiling. Medicare Part B, the Supplemental Medical Insurance program, currently accounts for two-fifths of total Medicare expenditure. This program is 25 percent financed by participant premium payments and 75 percent financed from general tax revenues.

Like the Social Security trustees, the Medicare trustees use a projection horizon truncated at 75 years; they also use the same lifespan assumptions. Yet even with this built-in bias in favor of optimism, the trustees calculate that eliminating the HI program's 75-year deficit would require an immediate and permanent 1.46 percentage point increase in the HI payroll tax rate. For reasons that aren't clear, Medicare's trustees do not specify the income tax increase needed to eliminate the

75-year Medicare Part B financing gap.

In a recent analysis, the economists David Cutler of Harvard and Louise Sheiner of the Federal Reserve added a little realism to the estimates. They extended the Medicare trustees' projection beyond the 75-year horizon, and they measured the future costs of the 75 percent of the Medicare Part B program not covered by Medicare participant premiums. Taking both into account, Cutler and Sheiner

future expenditures today than they were in 1997 means three things. First, they are anchoring much of what they expect Medicare to spend in future years to what was spent in the last couple of years. Second, in extrapolating the recent slower growth of Medicare spending to the distant future, the trustees were paying little attention to the fact that Medicare growth has slowed in the past in response to new cost-containment policies,

The inclusion of 17 additional years of annual deficits guaranteed that the 1983 fix would not hold.

estimated that it would take an immediate and permanent 4.1 percentage point increase in the Medicare tax rate to achieve true long-run fiscal solvency in Medicare – *a near tripling of the current tax rate.*

Medicare's Newfound Optimism

By the way, this distressing finding incorporates what many observers believe to be overly optimistic long-term Medicare projections. In their 1997 report, the Medicare trustees estimated that spending on the program in 2030, when those in the middle of the baby boom are in the middle of their old age, would equal 7.1 percent of GDP. Two years later, they reckoned that 2030 spending would total only 4.9 percent of GDP. The 2.2 percent of GDP discrepancy between these numbers is enormous when you consider that Medicare expenditures are currently 2.6 percent of GDP. The trustee's newfound optimism is greater the further out one looks. For 2070, the trustees assume away an amount of Medicare spending that, when scaled by GDP, exceeds the current program!

The fact that the Medicare trustees are making vastly different projections about

only to speed up thereafter. Third, Medicare spending projections are highly volatile, and there is no guarantee that the much higher future costs projected in 1997 won't become the estimates of choice once more.

The Double Whammy

The current Social Security plus Medicare payroll tax rate is 15.3 percent. If one adds to this the 6.0 and 4.1 percentage point immediate and permanent tax increases needed to secure Social Security's and Medicare's finances indefinitely, one arrives at a payroll tax rate of 25.4 percent. A total of 18.4 percentage points of this 25.4 percent tax rate would be applied only to OASDI-covered earnings; the remaining 7 percentage points would be applied to all earnings.

While the government's share of the additional costs of Medicare Part B could be paid out of general revenues, the numbers illustrate the magnitude of the fiscal burden facing tomorrow's workers from the Social Security System as currently constituted. One should also bear in mind that a 10 percentage-point tax increase would suffice only to correct the system's long-term imbalances if it

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were implemented immediately. Delay means an even higher tax increase in the future if benefits are to be paid in full.

U.S. GENERATIONAL ACCOUNTS

To get some perspective on how these great shifts will affect Americans, it's necessary to step back a little. Table 1 reports generational accounts – future taxes owed and future benefits promised for individual age cohorts

interest rate on long-term inflation-indexed U.S. government bonds; the productivity growth rate is the one currently being projected by the CBO. The numbers here are for 1998, but are based on the CBO projections available as of January 2000.

Tables 1a and 1b show the level and composition of what different age groups will give the government over the rest of their lifetimes and what they will get back. As an example,

consider the \$112,300 account of 25-year-old women in 1998. This amount represents the present value of the net tax payments – all taxes paid, less all government transfers received – that a 25-year-old woman could expect to pay over the rest of her life. The figure is an average. It takes into account that some members of this cohort will pay more, others less.

Note that the generational accounts for both men and women peak at age 25 and become negative for women at age 50 and for men after age 60. The accounts for those younger than 25 are smaller because they have a longer time to wait to reach their peak tax-paying years. The accounts are also

smaller for those over 25 because they are closer to retirement, when they will receive the bulk of their transfers.

The Generational Imbalance in U.S. Fiscal Policy

Given the assumed trajectory of discretionary spending and the net taxes those now alive are slated to pay, how big is the tab left for future

TABLE 1A: THE GENERATIONAL ACCOUNTS FOR MEN (PRESENT VALUES IN THOUSANDS OF 1998 DOLLARS)

AGE IN 1998	NET TAX PAYMENT	TAX PAYMENTS				TRANSFER RECEIPTS			
		LABOR INCOME TAXES	CAPITAL INCOME TAXES	PAYROLL TAXES	EXCISE TAXES	OASDI	MEDICARE	MEDICAID	WELFARE
0	249.7	128.3	61.8	107.3	93.4	45.2	24.0	58.1	13.7
5	256.4	136.3	66.0	114.1	97.4	48.0	35.9	58.9	14.6
10	272.3	147.1	71.8	123.1	102.1	51.7	44.2	60.2	15.8
15	291.4	158.4	77.9	132.8	105.9	55.4	50.5	60.6	17.1
20	318.7	171.2	85.4	143.8	107.5	59.0	51.9	59.9	18.3
25	327.3	174.5	91.6	145.7	102.4	61.2	52.5	55.2	17.8
30	313.7	167.8	98.2	138.1	95.9	64.6	55.2	49.9	16.5
35	279.2	153.9	104.5	124.3	89.4	69.4	63.7	45.0	14.9
40	241.4	137.1	110.0	108.9	83.2	76.4	67.4	40.4	13.5
45	194.2	116.1	113.0	91.2	75.5	85.5	67.9	35.9	12.3
50	129.7	93.0	112.4	71.8	65.6	95.6	75.4	31.0	11.1
55	66.2	65.5	108.4	50.4	56.0	108.1	69.7	26.3	10.0
60	-5.8	38.0	100.5	29.1	46.4	123.1	66.1	21.8	9.0
65	-77.5	16.6	89.5	12.7	37.2	138.5	69.3	17.7	8.0
70	-91.0	6.8	76.3	5.1	28.4	129.7	56.2	14.8	7.0
75	-75.1	3.3	61.3	2.4	20.8	106.5	38.2	12.5	5.7
80	-56.3	1.4	46.1	1.2	14.6	85.7	20.2	9.7	4.0
85	-42.4	0.5	33.0	0.5	10.1	67.0	9.0	8.0	2.6
90	-25.6	0.4	28.5	0.4	7.9	51.7	3.1	6.0	2.0

LIFETIME NET TAX RATE ON FUTURE GENERATIONS: 32.3%
LIFETIME NET TAX RATE ON NEWBORNS: 22.8%

Note: Table assumes a 4 percent real discount rate and 2.2 percent growth rate.

– assuming that all tax and entitlement programs remain in place and that discretionary federal spending grows with the economy. The accounts are constructed measuring “present values” of future obligations and liabilities using a 4 percent real discount rate and assuming a 2.2 percent rate of growth of labor productivity (and thus wages). This discount rate is roughly the current prevailing

generations? A stunning 32.3 cents out of every dollar earned. To put it another way, future generations will be obliged to pay net taxes – taxes less transfers from the government – equal to 32.3 of their incomes. Or think of it this way: future generations will have to sacrifice one-third of their incomes to cover government bills left unpaid by previous generations.

In considering this generational imbalance, bear in mind that the lifetime net tax rate facing future generations under current policy assumes that *all* future generations pay this same rate. If, instead, one were to make the more realistic assumption that public policy is not about to change and that generations born, say, over the next decade will be treated the same as current newborns, the net tax rate for generations born after 2010 would be even higher than 32.3 percent.

Policies to Achieve Generational Balance

Table 2 considers five alternative policies to achieve generational balance – that is, policies to equalize the lifetime net tax rates of newborns and future generations.

One is an immediate and permanent across-the-board increase in federal personal and corporate income taxes – a tax increase of 31.3 percent. Given the CBO’s projection of \$1.198 trillion in income tax revenue for 2000, such a tax increase would mean an additional \$375 billion in revenues this year. This, in turn, would mean a \$375 billion larg-

er surplus. Since the 2000 fiscal year surplus totaled roughly \$230 billion, achieving generational balance means running a surplus that is 2.6 times larger than we are now running. Hence, the current surplus is far too small compared with what is needed to achieve generational balance.

An alternative to raising just federal income taxes is to raise all federal, state and local taxes. In this case, an across-the-board tax increase of 12 percent could deliver gener-

**TABLE 1B: THE GENERATIONAL ACCOUNTS FOR WOMEN
(PRESENT VALUES IN THOUSANDS OF 1998 DOLLARS)**

AGE IN 1998	NET TAX PAYMENT	TAX PAYMENTS				TRANSFER RECEIPTS			
		LABOR INCOME TAXES	CAPITAL INCOME TAXES	PAYROLL TAXES	EXCISE TAXES	OASDI	MEDICARE	MEDICAID	WELFARE
0	109.6	67.8	21.6	64.1	89.0	42.3	24.6	44.0	22.0
5	104.6	72.1	23.0	68.2	92.7	45.0	38.3	44.7	23.4
10	104.6	77.9	25.1	73.7	97.0	48.7	48.8	46.1	25.6
15	105.4	84.1	27.2	79.6	99.9	52.4	57.9	46.9	28.2
20	113.7	91.0	29.8	86.2	100.9	56.4	61.1	46.9	29.9
25	112.3	91.5	31.8	86.4	96.6	58.9	63.7	45.2	26.2
30	95.6	85.1	33.9	79.9	91.2	61.9	68.0	43.2	21.3
35	65.6	75.6	35.9	70.8	85.7	65.7	78.6	41.1	17.0
40	37.9	66.0	37.9	62.0	79.7	71.4	83.7	39.3	13.3
45	7.9	55.4	39.2	52.1	72.7	78.8	84.7	37.6	10.4
50	-37.7	42.2	39.6	39.6	64.4	87.7	94.1	33.5	8.2
55	-73.9	28.3	39.1	26.6	55.2	99.0	87.5	29.8	6.8
60	-115.0	15.6	37.4	14.7	46.0	112.7	84.0	26.2	5.8
65	-157.6	6.6	34.6	6.1	36.9	124.6	89.3	22.6	5.2
70	-155.9	2.5	30.8	2.2	28.7	116.8	78.7	20.0	4.6
75	-131.8	0.9	26.3	0.9	21.3	100.0	59.6	17.9	3.8
80	-99.2	0.3	21.5	0.3	15.3	82.1	36.9	14.5	3.1
85	-70.5	0.2	16.9	0.1	11.1	63.4	20.6	12.5	2.4
90	-44.4	0.1	14.1	0.1	8.3	47.3	9.0	8.9	1.8

Note: Table assumes a 4 percent real discount rate and 2.2 percent growth rate.

**TABLE 2
ALTERNATIVE POLICIES TO
ACHIEVE GENERATIONAL BALANCE***

POLICY	IMMEDIATE AND PERMANENT CHANGE IN POLICY INSTRUMENT	EQUALIZED LIFETIME NET TAX RATE
Raise All Taxes	12.0%	27.5%
Raise Fed. Inc. Taxes	31.3%	27.3%
Cut All Transfers	21.9%	26.5%
Cut All Govt. Purchases	21.0%	22.8%
Cut Federal Purchases	66.3%	22.8%

* Generational imbalance is the percentage difference in lifetime net tax rates of newborns and future generations.

FAULTY ASSUMPTIONS

ational balance. Putting transfer payments and other government purchases on the table would offer additional options. A 21.9 percent reduction in all Social Security, Medicare, Medicaid, food stamps, unemployment insurance benefits, welfare benefits, housing support and other transfer payments also would get the budget to generational balance. Two final options: an immediate and permanent cut of 21 percent in purchases from all levels of government or a 66.3 percent cut in federal purchases.

Balance achieved through cuts in general spending (as opposed to transfer programs) would mean that the net tax rate on future generations' income would be the same 22.8 percent share of lifetime earnings that today's newborns are expected to pay under current policy. In contrast, either raising taxes or cutting transfers would mean higher lifetime net tax rates for those now alive.

As Table 2 indicates, these alternative policies would leave newborns and all future generations paying roughly 27 cents out of every dollar earned in net taxes. This net tax rate is over 4 cents more per dollar earned than newborns are now forced to pay. Thus, the benefit of closing the gap today by raising the net tax rate of those currently alive is a reduction in the net tax rate facing future generations by 5 to 6 cents per dollar earned.

Will the Economy Save Us?

One response to this news is that it ignores the economy's growth potential. In particular, it ignores the possibility that an aging society will have more capital per worker, because the number of elderly wealth holders will rise relative to the number of young workers. More capital per worker means higher labor productivity, higher real wages as well as the lower return to capital that worries Wall

Street. It also means a larger payroll tax base, which would reduce the payroll tax needed to balance generational accounts.

But such capital deepening – good news for payroll tax revenues – is not a foregone conclusion. Higher payroll tax revenues means that workers will have less after-tax income from which to save, and they would thus arrive at retirement with less wealth in the form of productive capital than would otherwise be the case.

Laurence Kotlikoff's current research with Kent Smetters of the University of Pennsylvania and Jan Walliser of the IMF studies these two conflicting forces by the means of computer simulations. The model suggests that the interaction of capital accumulation and productivity will do nothing to alleviate our short- and medium-term fiscal problems. And over the longer term, it will actually exacerbate our fiscal difficulties.

Capital "deepening" and its beneficial effect on real wages do not, on balance, materialize over the next three decades, and thereafter the picture gets worse. Capital per worker actually falls, which depresses real wages by 9 percent. For Wall Street, this bad news about wages is good news about the return on capital, which stays fixed over the next three decades and then increases slightly.

The current budget surpluses are good news – but not nearly good enough. Washington is still assuming away fiscal problems rather than disclosing and solving them. Without changes, our children are likely to face lifetime net tax rates that are two-fifths larger than those we face.

A variety of steps, all painful, would restore generational balance. But even in the best of worlds, getting from here to there would be difficult. And the difficult will remain impossible until Washington offers an honest assessment of the problem. 

Competition Policy

— AND THE —

New Economy

By Robert W. Hahn

Back in 1953, Charles E. Wilson, chairman of America's flagship automaker, explained to Congress that "what's good for General Motors is good for the country." Today, that much-mocked maxim could be replaced with "if it's good for the New Economy, it's good for the world."

This leaves policymakers in a bind. On the one hand, no one wishes to ruffle the feathers of the proverbial goose. On the other, the high profile and aggressive ways of many of the most successful companies make laissez-faire both politically difficult and economically problematic. Accordingly, government trust-busters are wrestling with the question of how to apply competition policy that evolved over the last century to enterprises whose businesses differ from the old sort in profound ways.

Begin where the policymakers must begin – by defining the New Economy. One way is to define what it's not. The New Economy wasn't around 30 years ago. Then, big business meant companies like Exxon, Procter & Gamble and, of course, GM. Today, these companies are still big, but there are new kids on the block that didn't exist when bell-bottoms were in fashion – dot-coms like Yahoo and the giants of the information technology markets like Microsoft, Sun Microsystems and Cisco.

What seems to distinguish these heterogeneous companies is that their primary product is ideas – intellectual capital, in the jargon of economists. That largely explains why New Economy companies often have a high market value relative to their book value, since the book value typically underestimates the worth of intangible assets like productive

research departments.

Seen from this perspective, biotechnology companies and pharmaceuticals clearly also belong in the New Economy. Complicating the matter, many other companies have drawn on the New Economy in reinventing their own businesses – companies as diverse as Barnes & Noble, AT&T, Eastman Kodak and Corning. But wherever you draw the line, there is no disputing that the New Economy is big and growing in importance. In 1970, only 11 of the Forbes 100 companies, with a combined market capitalization of \$92 billion, were arguably part of the New Economy. At the start of 2000, 57 companies, with a combined market capitalization of \$5.6 trillion, could be considered New Economy companies. And while the Nasdaq crash has undoubtedly trimmed a trillion here and a trillion there, this is still a formidable list.

For better or worse, such visible change attracts the attention of regulators. Intel settled a suit by the Federal Trade Commission in 1999 in which the government had objected to the company's demand that its customers license proprietary technology to Intel in return for access to the latest specifications of Intel microprocessors. The FTC recently approved the merger of AOL and Time-Warner, but only on the condition that the company open its cable networks to competing Internet service providers. And last but hardly least, there is the matter of *U.S. v. Microsoft*, the antitrust case of the decade.

Such scrutiny is not restricted to the United States. Last October, the European Commission issued a "statement of objections" against Microsoft for allegedly abusing its dominant position in the market for the PC operating systems software by leveraging this power into the market for network server software. This action was the culmination of an investigation begun in response to a com-

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plaint by Sun Microsystems in December 1998. The European Commission has also wielded a big stick in recent merger cases. The union between Vodafone and Mannesmann was approved only after the commission obtained commitments that allow third-party access to their combined telecommunications network.

THE NEW CONVENTIONAL WISDOM ON THE NEW ECONOMY

Remember the hoary joke about there being as many opinions as there are economists? In fact, there is substantial agreement among economists about much of antitrust, and a good bit of agreement about what makes the New Economy different for purposes of antitrust. The disagreement arises over what should be done to ensure that the New Economy works to the benefit of consumers.

The basic thrust of the antitrust laws in the United States is to improve consumer welfare by limiting anticompetitive behavior. Thus companies are not permitted to fix prices with competitors. A company can, however, become a monopoly, provided it does so lawfully. In the case of a software company, this could include the development of a product protected by patent or copyright laws. If a corporation has a monopoly or large market share, it is still allowed to compete vigorously against competitors or potential competitors. Economists agree that price fixing is bad because the result – prices that exceed cost – distorts output at the expense of consumers. Economists also agree that big should not automatically be equated with bad. In the case of mergers, the efficiency gains need to be weighed against the potential for companies to exercise greater control over prices.

There is also widespread agreement that the antitrust laws are sufficiently robust to

address issues raised by the New Economy. Former Treasury Secretary Lawrence Summers noted, “The core principles of antitrust reflected in the Sherman Act – like other fundamental principles embodied in venerable texts like the Constitution and the Bill of Rights – should not be changed in this new era.” The devil, as usual, is in the details.

One key characteristic of New Economy companies is economies of scale in production – that is, falling average costs as output increases. In software, for example, it typically costs millions to produce the first unit of the finished product, but just pennies to make the next and the next and the next.

Another New Economy characteristic is that the value of a product increases as other products related to its use are developed. For example, as software applications are written for a computer operating system, the operating system becomes more valuable to consumers. Indeed, one reason the Windows-based personal computer became more popular than the Mac is that Microsoft worked harder to make it easy for developers to write software applications for Windows.

A less familiar feature of New Economy products is economies of scale in consumption – a phenomenon sometimes referred to as “network effects.” Adding another person to a telephone network typically makes the network more valuable to other users, assuming that the extra user does not create congestion. Similarly, the value of software increases when files can be shared; the more people who use Adobe Acrobat to read documents, the more valuable the software is to people who create documents.

Another key feature that distinguishes New Economy companies is the pace of design change. Ten years ago, word processing programs were just that – glorified typing programs. Today, with the integration of spell

checkers, thesauruses, and even graphics and database functions, they do everything short of washing the dishes.

Perhaps more important than the integration of new features into existing products is the tendency of New Economy companies to innovate in ways that undermine the viability of competitors. For example, e-commerce is rising at the expense of traditional retailing. And new technologies are appearing all the time that are eroding the position of the Windows-based PC: game machines that tap the Internet, handheld computers that integrate e-mail, and server-based applications software that can be used through any computer running on any operating system.

Path-breaking innovations that redefine markets are not new, of course. After all, the automobile replaced the horse and buggy. What is startling is the rate of discrete innovations that we observe in the New Economy – in part the consequence of the recognition that the payoff to significant new products is enormous. Companies are, in effect, taking big risks to get higher-than-market returns if they win. Because the New Economy is anchored in the production of information, it operates on different principles than the old steel-and-concrete economy. As Summers explained: “The only incentive to produce anything is the possession of temporary monopoly power – because without that power the price will be bid down to marginal cost and the high initial fixed costs cannot be recouped. So the constant pursuit of that monopoly power becomes the central driving thrust of the New Economy. And the creative destruction that results from all that striving becomes the essential spur of economic growth.”

In Summers’ view, the resulting “winner take most” markets are not undesirable. The pressure that drives the winners to ever-

greater efficiency is the threat of the Next Big Thing – not the worry that competitors will learn to make the same old stuff for a few nickels less.

Summers’ ideas build on the insights of the great economist Joseph Schumpeter, whose key insight was that competition is fundamentally a dynamic process in which the primary payoff comes in the form of innovation. The static model of competition so frequently used in antitrust policy – one in which prices are relentlessly driven down toward marginal cost – is simply not relevant in many New Economy industries.

Indeed, the pricing strategies of New Economy companies have more to do with game theory than 19th century models of competition. A company wishing to gain a dominant position in the market will often charge a low price, so that it can attract customers. Yet, even after attaining a dominant position, it is unlikely to charge the profit-maximizing price that would emerge from a static analysis. This is because its dominance is unlikely to be secure unless it maintains a high rate of innovation and a large customer base.

The trustbusters, in turn, must adapt to some new realities:

The competitive price in a New Economy market is often ill defined. In static markets, the competitive price usually equals the marginal cost of production. In a New Economy market, with high fixed costs and low or zero marginal costs, there is no “competitive” price.

The difference between price and cost is no longer useful as a measure of market power. In the old economy, a company that charged substantially above the marginal cost of production was presumed to have some degree of market power – that is, some ability to earn monopoly profits. Typically, in a New Economy market, companies must charge more than their marginal costs merely to

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recoup their investments.

The changing nature of New Economy products makes it difficult to define relevant markets for antitrust. Historical market shares may be very misleading because changes in technology are constantly redefining which products can be substituted for which others.

The contemporary rise of winner-take-most markets thus makes it harder to identify illegitimate monopoly power and predatory conduct. If competition in a New Economy industry yields only a single profitable company, it is hard to say whether the battle was fair or foul. In effect, the choice may be to eat or be eaten.

THE INTERVENTIONISTS VS. THE NON-INTERVENTIONISTS

Ambiguity leads to ambiguity, with antitrust experts' views falling loosely into two camps – those who would intervene where the consequences of laissez-faire are unclear and those who would not.

Interventionists focus on barriers to entry that could be imposed by a dominant company. For example, in the Microsoft case they argued that software vendors would not create applications programs for a competing platform (say, Linux) until the competitor had a large installed base. But – Catch 22 – such a competitor could not acquire this base of consumers without the requisite applications. Thus, it was argued there was a substantial “applications barriers to entry” into the operating system business. Interventionists are particularly concerned about possible barriers to entry that a dominant company may impose through exclusive contracts with distributors or by “tying” products together.

One theory frequently used in support of intervention is that New Economy markets

have a tendency to “tip.” While a market may initially be up for grabs, the theory goes, once a company gains a significant lead in sales the market will tip in its favor and give the dominant company market power for a sustained period.

Interventionists, notably Dan Rubinfeld, the former chief economist for the Antitrust Division, believe in acting early, even if this occasionally means prosecuting companies that are innocent. He argues that a company's marketing strategy should be deemed predatory if it is rational for the company to eliminate a competitor's incentive to innovate in the development of its next-generation products.

One serious problem for the proponents of an early warning system is false alarms, which make it hard to design benchmarks for intervention that help consumers more than they hurt them. A company could, for example, pursue a strategy that appears predatory, but actually benefits consumers by lowering prices in both the short and long term. In the Microsoft case, for example, the software maker's defenders argue that integrating a first-rate Internet browser with Windows without raising the cost of the operating system created tangible benefits for consumers that far outweighed the hypothetical costs of putting the Netscape Corporation at a competitive disadvantage.

Interventionists would also look to intent (rather than to results) in judging the behavior of companies. With Microsoft, they point to a variety of internal documents – e-mail messages and the like – to argue that the company's motive in developing a better browser was to crush its rival.

But evidence of intent is problematic, at best. It rarely tracks actual behavior and, as noted earlier, it may speak to the realities of winner-take-most markets in which one

company's success turns on the failure of another.

The non-interventionists would err on the side of caution in regulating New Economy markets. They focus on measures of dynamic competition, placing less reliance on market share and mechanical definitions of markets. For example, Richard Schmalensee, dean of

pace of antitrust proceedings. This is not a new problem. The IBM case began in 1969 and was not resolved until the government withdrew its complaint 12 years later. By the time the case was resolved, the PC revolution was well under way, bringing with it a change in the role of mainframe computers and a significant reduction in the stature of IBM in

In effect, the choice may be to eat or be eaten.

the Sloan School of Management at MIT and the expert economic witness for Microsoft in the antitrust trial, argues for examining the “fragility” of the market leader’s position – that is, for assessing the risk that a failure to innovate or to keep prices low on the part of the leader would encourage competitive challenges. In a similar vein, Richard Posner, the chief justice of the United States Court of Appeals for the Seventh Circuit and a University of Chicago law professor, asserts that networks in the New Economy “do not seem particularly secure against competition.”

Non-interventionists explicitly recognize that some activities traditionally viewed as anticompetitive could be good for consumers. For example, they often take a more positive view of linking product sales. David Evans, a senior vice president at National Economic Research Associates, advocates the elimination of the flat-out rule against tying. By the same token, many economists – notably Carl Shapiro and Hal Varian, the authors of *Information Rules* – are open to arguments that consumers benefit from collusion among companies that results in industry-wide standards or protocols.

A fundamental problem identified by non-interventionists is the brisk pace of change in the New Economy compared with the glacial

the computer industry.

Similar problems arise in the Microsoft case. The United States government’s concerns were originally focused on the “browser wars,” then thought to be Microsoft’s bid to destroy a rival that threatened to weaken the value of Windows. But the center of the conflict has since moved away from browsers. And besides, Netscape is alive and well as a subsidiary of AOL – the dominant Internet service provider – which can keep the Navigator browser in the game simply by promoting its use on the AOL network.

So the terms of reference for the case changed. The proposed remedy’s most draconian element would break Microsoft into two companies – one selling operating systems and the other applications software. The government’s rationale for this division focused on Office, Microsoft’s core applications programs for business, which was barely mentioned at the trial. Indeed, the key rationale offered by the remedy-phase economists contradicted theories offered by the government during the trial – specifically, the notion that the adaptation of a handful of popular software applications to Linux would breach the “applications barrier to entry” and make Linux a worthy competitor to Windows overnight. Another concern for non-inter-

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ventionists is the politicization of antitrust policy by companies that lose in the competitive process. New Economy enterprises that lose in the marketplace are increasingly using antitrust as a means of confounding rivals and raising their costs. The uncertainty resulting from these political end-runs around the market could make productive investments less attractive.

Non-interventionists differ on how to deal with New Economy companies that long dominate a market. They argue for examining these issues on a case-by-case basis and giving the dominant company the benefit of the doubt, provided there are clear benefits to consumers. And even when they acknowledge that competition has failed, they resist intervention unless there are good reasons to believe that the remedies would do more good than harm.

MEASURING THE EFFECTS OF ANTITRUST

A decade ago, I was co-author of a study on the value of regulation. Nowhere did we find plausible evidence on the overall benefits and costs of antitrust intervention. The Justice Department, not surprisingly, suggested the net benefits were significant but could not provide a number. There is, however, some, indirect evidence based on stock market data in the case of Microsoft.

George Bittlingmayer and Thomas W. Hazlett measured the impact of government actions on the value of Microsoft stock and the computer industry more generally. They found a clear pattern: when the market learned of action against Microsoft by the government, the company's stock went down, as did computer stocks over all. Conversely, when the news favored Microsoft, share prices rose. If the market believed the

Department of Justice's claims – that breaking up Microsoft would reduce its monopoly profits but unleash a new wave of innovation – one might expect Microsoft's value to fall. But the decline should be more than offset by increases in the value of competitors (like Sun and Oracle) that would presumably be liberated from Microsoft's yoke. This was not the case.

To help settle the debate on the benefits of intervention, it would also be useful to have more information on the importance of tipping and the closely related issue of "lock-in." If a market is prone to tipping but consumers are not locked into using a specific technology, we can expect competition to function through a series of contests for market dominance. If, however, consumers are locked into the winning technology, there is more cause for concern.

In software, there are numerous examples of category leaders (think Lotus 1-2-3 or WordPerfect) that were once considered unbeatable yet succumbed to competition from better products. In PC operating systems, where lock-in is of greatest concern, Microsoft has long had high market shares. But it has faced major challenges from IBM and others. Moreover, the low price of Windows – less than 4 percent of the average cost of a new PC – is hardly consistent with what one would expect from a secure monopolist.

The experience with Windows also suggests that it is easy to overstate the importance of tipping. The original version of Windows was released in 1985, but sales took off only after the release of Windows 3 in 1990, and it was another three years before sales of Windows exceeded those of Microsoft's old DOS operating system.

More generally, the nature of barriers to entry in New Economy industries needs to be assessed carefully. Some suggest that there

could be significant barriers to entry in software, while others argue that the barriers are small. In a recent study, Richard McKenzie of the University of California at Irvine argued that Windows is not protected by an “applications barrier to entry” of 70,000 software programs written for that system, as was claimed by the judge in the Microsoft trial. Instead, he concluded that the needs of many computer users could be met through a relatively small number of software applications, implying that entry barriers were much lower than the government claimed.

The issue of “rent-seeking” also deserves more systematic investigation. Microsoft was not among the top 20 campaign contributors from the computer and Internet industry in 1990. But it was No. 1 in the year 2000 – presumably in reaction to the antitrust trial. During the decade, campaign contributions from that industry, as reported to the Federal Election Commission, increased by a factor of 20 from \$1.2 million to \$27.6 million.

WHAT IS TO BE DONE?

I side with the non-interventionists, but I don’t believe that membership in the New Economy entitles companies to *carte blanche*. Here is a short list of pragmatic recommendations that I think could improve antitrust policy.

Recognize the temporal limitations of antitrust. The legal system simply isn’t built to operate on Internet time.

Evaluate New Economy antitrust issues case by case. Whether we are talking about mergers or market dominance, the first and most important task should be to understand how competition actually works in a particular industry.

Use a framework that accounts for dynamic competition. Static measures of competition and consumer welfare are generally uninfor-

mative in markets where progress largely takes place through innovation. The real issue is what kinds of dynamic measures to use. One plausible measure, related to the idea of fragility, is the extent to which output and pricing decisions of the company in question are constrained by potential or actual competition.

Err on the side of caution. Ill-conceived remedies or remedies applied too late only compound market failure. Nevertheless, New Economy industries should not be permitted to run roughshod over common sense. Price fixing is a no-no, no matter what the context. And exclusive contractual arrangements that have no efficiency rationale and significantly raise a rival’s costs should not be allowed.

Reduce opportunities for political rent seeking. In the good old days, Microsoft did not see the need to have good lawyers and lobbyists in Washington and Brussels. Unfortunately, those days are over. The issue now is whether wasteful rent seeking can be limited. One possibility, suggested by Judge Posner, is to limit the role of the states in pursuing antitrust suits. I also think it would be prudent to subject antitrust proceedings at the federal level to review by a single agency, preferably by the Department of Justice or the Federal Trade Commission. Why, for example, should AOL have to go to the FTC and then the Federal Communications Commission to get approval for its merger with Time-Warner?

Economists have offered a framework for thinking about antitrust policy for the New Economy. But it is only a framework, and concrete measures for implementing the framework are in short supply.

The good news is that the New Economy is still thriving. The bad news is that no one really knows how much its future success depends on wise public policy. **M**

Starting Over



The Automated Payment Transaction Tax

By Edgar L. Feige



In recent decades, innovations in finance, communications and transportation have drastically cut the cost of doing business across national frontiers. Capital mobility, transfer pricing, offshore tax havens, Internet commerce and the creation of global equity exchanges make it ever more difficult to identify and assess the national origins of income and profits. Yet taxation schemes remain firmly rooted in personal incomes, corporate profits and expenditures generated within national borders.

These existing tax systems aren't popular. They are viewed as overly complex, inefficient, inequitable and costly to administer. American politicians entertain such broad fixes as flat rate consumption taxes, Europe debates the wisdom of "fiscal harmonization," and Japan muddles through a seemingly endless recession in which tax policy has episodically been a major bone of contention.

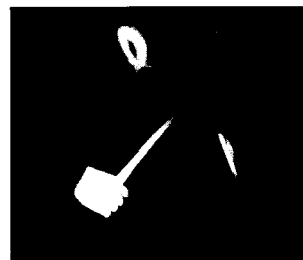
I think the time is ripe to reconsider taxes in the context of the rapidly globalizing economy – a context in which it makes sense to look at broad-based transaction taxes that could prove a more efficient and equitable replacement for the hodgepodge of revenue schemes found around the world. I am under no illusion that such a radical proposal

will be readily implemented. But I do hope my proposal will spark debate and research on a fresh set of issues in public finance and monetary economics.

AN OVERVIEW

The foundations of the automated payment transaction tax proposal – a

small, uniform tax on all economic transactions – involve simplification, base broadening, reductions in marginal tax rates, the elimination of tax and information returns and the automatic collection of tax revenues at the payment source. The APT approach would extend the tax base from income, consumption and wealth to all transactions. It can be viewed as a public brokerage fee accessed by the government to pay for providing the monetary, legal and political institutions that facilitate and protect



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market trade and commerce.

So-called “tax expenditures” – tax breaks used to encourage everything from home ownership to the production of alcohol from corn – would cease to be an option, effectively forcing governments to make direct expenditures if they chose to favor specific interests. Such a uniform tax might not, on its face, look progressive, but probably would be since the volume of taxed transactions would almost certainly rise disproportionately with personal income.

The new tax system would be designed solely to raise government revenue. I intentionally avoid the contentious issue of how large the government should be by conceiving it as a revenue-neutral tax that would replace other taxes. Simplicity would be achieved by requiring that all final party transactions be taxed, and at the same rate.

Since every transaction is settled by some means of final payment, taxes could be assessed and collected at the source, through the automated banking or payment clearing system at the moment the exchange is com-

tax evasion.

The APT tax would permit a drastic reduction in the marginal tax rates on currently taxed incomes and expenditures by greatly broadening the tax base. It would therefore reduce the distortions caused by taxing productive activity, recapturing much of what economists call the “dead weight” efficiency losses created by the current tax system. Most important among these is a reduction in marginal tax rates on wages and salaries that create wedges between the cost of labor and the returns to work.

These efficiency gains would be offset in part by the distortions created in taxing transactions that are now not taxed. These possible distortions include incentives to integrate businesses vertically, a reduction in the liquidity of financial instruments used to hedge business risk, a lengthening of the term of debt and the holding period of financial assets, and incentives to seek payment substitutes and offshore tax havens. Some economists have suggested that the painlessness of APT tax collection could also reduce public resistance to the growth in government – the



pleted. This automatic collection feature would eliminate the need for individuals and companies to file tax and information returns. Real-time tax collection at the source of payment would apply to all types of transactions, thereby reducing administration and compliance costs as well as opportunities for

Leviathan issue in public choice theory.

But as I discuss below, there is every reason to believe that the net effect would be a substantial gain in efficiency. Some of the distortions created by a transaction tax might even increase overall efficiency; James Tobin, the Nobel Prize-winning economist, has long argued that very low transactions costs in financial markets can result in excessive volatility.

The equity and fairness of the APT tax sys-

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tem also deserve a critical look. But the bottom line is reassuring: The wealthiest portion of the population executes a disproportionate share of total transactions.

The APT tax reform would create winners and losers, but along lines that most people would find desirable. The greatest beneficiaries will be those whose current level of taxes are considerably reduced, primarily wage and salary earners with modest assets. Those most likely to perceive themselves as losers are individuals and financial institutions that make markets for assets, along with those who sell advice on how to minimize taxes under the current system.

THE SIZE OF THE APT TAX BASE AND THE TAX RATE

The potential benefits of a universal transaction tax are largely tied to the fact a broader tax base would require much lower marginal tax rates to generate the revenues now raised by taxing income and consumption. But to get a fix on this “revenue neutral” rate, one must calculate the amount of revenue that needs to be raised and the volume of transactions to be taxed.

Table 1 shows the source of United States tax revenues that the APT tax would to replace. (These numbers, incidentally, do not

include contributions for social security programs, state and local property taxes and user fees, which I would not replace with an APT tax.) In 1996, the two major sources of federal and state revenues were income taxes (74 percent) and excise taxes (24 percent). The revenue-neutral APT tax devised to replace federal, state and local personal and corporate income, excise, gift and estate taxes would thus have been required to yield tax revenues

TABLE 1: REVENUES TO BE REPLACED BY APT TAX FOR 1996

REVENUE SOURCE	FEDERAL DOLLARS (BIL.)	STATE & LOCAL DOLLARS (BIL.)	TOTAL DOLLARS (BIL.)	PERCENT
Individual Income Tax	\$656	\$149	\$806	59%
Corporate Income Tax	\$172	\$35	\$206	15%
Excise and Customs Tax	\$73	\$250	\$323	24%
Estate and Gift Tax	\$17	\$5	\$22	2%
Total	\$918	\$439	\$1,357	100%

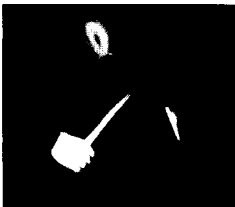
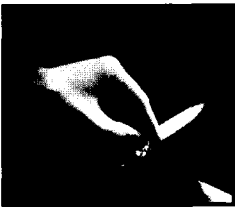
SOURCE: U.S. Bureau of Economic Analysis, National Income and Product Accounts of the United States and Survey of Current Business.

of \$1,357 billion in 1996.

Now for an estimate of the APT tax base, which consists primarily of debits to accounts that permit the settlement of claims by check, wire transfer or direct debit. Debits and credits to bank and brokerage accounts are recorded as part of routine accounting practices. Thus, the collection and aggregation of debit statistics would impose a minimal added burden on the financial community.

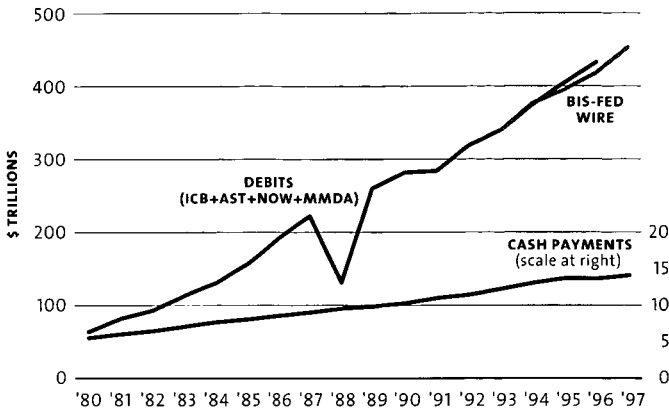
I use two estimates of total payments. The first is the Federal Reserve’s measure that includes debits to all insured commercial bank demand deposits and to other accounts that can be debited by check. The second is the Bank for International Settlements’ estimate of the value of total payments, adjusted for double counting. To these estimates add an estimate of the total volume of payments made with currency. Figure 1 reveals that cash payments make up only 3 percent of total payments.

In 1996, the APT tax base was 98 times larger than the income tax base as measured by the Internal Revenue Service’s estimate of Adjusted Gross Income. Given an estimated initial APT tax base in 1996 equal to some \$445 trillion and a required level of tax revenues of \$1,357 billion, the revenue-neutral



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FIGURE 1: ESTIMATE OF THE APT TAX BASE



SOURCE: Bank for International Settlements (1998) and Federal Reserve Bulletins. Author's estimates of cash payments.

tax rate per transaction would equal 0.3 percent. Thus, each party to a transaction would be required to pay an APT tax of 0.15 percent.

Although most of my analysis focuses on the United States, it is interesting to look at the potential APT tax base in other highly developed economies.

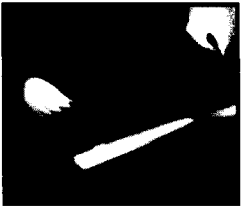


Figure 2 displays the ratio of the volume of Bank for International Settlements payments to GDP for the United States, Japan and seven European nations. The ratios for Japan and Switzerland are roughly twice as high as that

for the United States, whereas the average of the other European countries is 13 percent below that for the United States. This suggests that the estimated revenue-neutral APT tax rate for European countries would be slightly higher than that for the U.S., while the revenue-neutral APT tax rate for Japan would be somewhat lower.

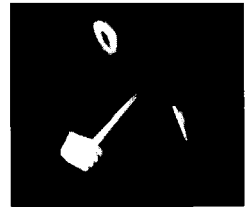
One flaw in the calculation of the transaction tax base is obvious: even a low tax rate of

approximately 0.15 percent for each buyer and seller would create incentives to economize on the volume of transactions. What's needed to adjust the measure to a more realistic equilibrium figure is an estimate of the sensitivity of transactions to changes in costs – in the parlance of economics, the elasticity of total transactions with respect to transaction costs.

To calculate the impact, one must get a sense of the relative changes in transaction costs that would be induced by the tax. And that's a problem because we have no means of measuring and tracking aggregate transaction costs over time. At best, we may be able

to measure costs in particular markets and examine estimates of the relevant elasticities.

I have been able to account for roughly 66 percent of the payment estimates. Missing are all transactions in tangible assets, including real estate, raw materials, art and commercial enterprises as well as exchanges of financial



assets and liabilities that are not included in readily available macroaccounting sources. Of the \$294 trillion in measured transactions annually, 77 percent comprise money-changing transactions, foreign exchange transactions and bond market transactions. Equity, options and mutual funds transactions account for an additional 5 percent, while goods transactions account for roughly 11 percent.

Estimates of the elasticity of stock trading

volume to transaction costs range from 0.26 in the United States to 1 for the Stockholm stock exchange. That is, a 10 percent increase in trading costs would reduce the volume of transactions in the U.S. by 2.6 percent.

Now consider the level of transaction costs paid for equity trades by the largest institutional investors in Europe, Japan and the United States. In 1999, these ranged from a low of 0.27 percent in Germany to a high of 0.9 percent in Luxembourg. Since 1996, equity-trading costs have declined in many countries, sometimes by nearly half. Indeed, on average, equity transaction costs ran about 0.762 percent in 1996.

Combining the transaction cost estimates and the equity turnover elasticity estimates, we can estimate the consequences of introducing an initial APT tax with a flat rate of 0.3 percent in 1996. The average percentage decline in trading volumes over all countries could be as low as 9 percent or as high as 33 percent. But several factors suggest that the lower estimate is more likely. First, the breadth of the APT tax would eliminate easy substitution options – you couldn't shift to,

proposal to “throw some sand in the wheels of speculation.” Annual foreign exchange volume in the U.S. amounted to \$67.3 trillion in 1996 and rose to \$84.2 trillion in 1998. The volume of foreign exchange is made up of 42 percent in spot transactions, 11 percent in forward contracts and 47 percent in swaps. Perhaps 40 percent of this volume represents short-term trades of seven days or less. A 0.15 percent APT tax on a security that turned

over each week would thus amount to an annualized tax rate of roughly 15 percent – certainly enough to induce investors to reduce trading volume substantially and to increase holding periods. Yet, while we are confident that the tax could have a real impact of currency trading, we don't have much

clue about the magnitude. Under the circumstances, the best one can do is to provide a sensitivity analysis that determines

the revenue-neutral APT tax rate under different assumptions.

A 50 percent decline in the volume of transactions would require a revenue-neutral APT rate of 0.3 percent on each party. A 70 percent decline – a decline that would return the United States to the level of transactions that prevailed in the mid-1980s – would raise the rate to 0.51 percent. For purposes of illustration, I'll assume that total transaction vol-

**FIGURE 2:
RATIO OF PAYMENTS
TO GDP, 1997**

COUNTRY	RATIO OF PAYMENTS TO GDP
U.K.	43.9
Italy	34.8
Netherlands	37.9
France	41.3
Belgium	44.6
Germany	68.9
U.S.	86.2
Japan	101.6
Switzerland	105.3

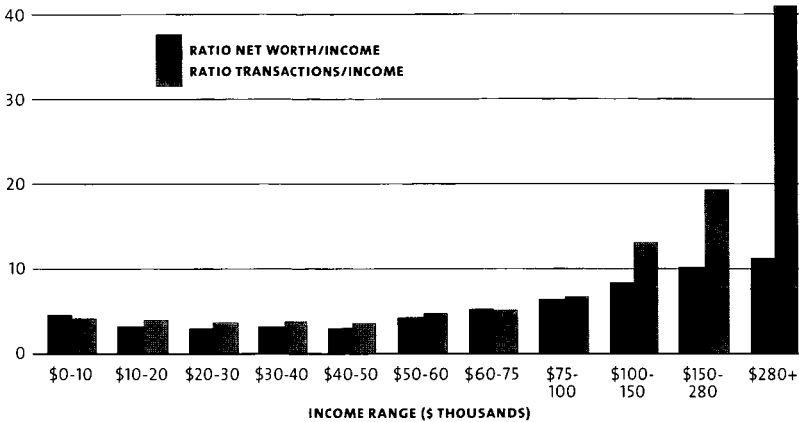
SOURCE: Bank for International Settlements (1998) and author's calculations.

say, trading bonds to escape the tax. Second, overall transaction costs are falling rapidly, implying that the tax would be offset in part by reductions in other trading costs. Last but hardly least, the concomitant elimination of income and capital gains taxes would reduce impediments to realizing profits.

The consequences of transaction taxes on foreign exchange have been most widely discussed in the context of James Tobin's 1972

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FIGURE 3: RATIO OF NET WORTH AND TRANSACTIONS TO INCOME BY INCOME GROUPS

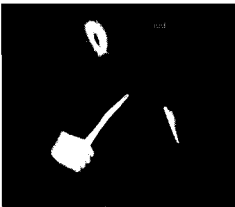
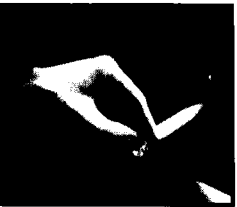


SOURCE: Author's simulations based on Federal Reserve Survey of Consumer Finances.

umes would decline by half, requiring a uniform flat rate on all transactions of 0.6 percent divided equally between the buyer and seller of each transaction.

WHO PAYS?

To gauge the distributional impact of the APT



tax, it is necessary to estimate the distribution of payments made by different income classes. Here, I simulate the transactions patterns of U.S. households from their wealth composition, as revealed in the Federal Reserve's Survey of Consumer Finances. Applying turnover rates to each of the assets and liabilities held in household portfolios of particular income categories, it is possible to simulate the volume of transactions undertaken by

households in different income classes.

Figure 3 displays the simulated ratios of transactions to income. Higher income groups account for the largest proportion of transactions, implying that they would pay a far greater proportion of the tax than lower income groups. Indeed, the ratios are so skewed that a uniform tax on transactions would be highly progressive for taxpayers with incomes exceeding \$75,000.

ADMINISTRATION AND COMPLIANCE

The everyday operation of the modern financial system already requires the maintenance of exact records of debits and credits to determine customers' current balances. In practice, the proposed APT tax revenue assessment and collection system would demand only a

software modification to existing financial institution accounting procedures. The change would create a virtual tax payment account (TPA) linked to every customer's financial account. Financial intermediaries would be

required to maintain a positive balance in the linked TPA somewhat in excess of expected tax payments. Every debit or credit to the primary account would trigger a corresponding debit in the TPA account equal to the debit amount multiplied by the flat tax rate. The revenue would be electronically transferred to the government. All taxes would thus be assessed and collected at the time the transaction is consummated.

All tax systems, including the APT, are vulnerable to evasion when paper currency is freely available. Since the administrative costs of policing currency transactions are clearly prohibitive, another form of taxation would be needed to eliminate the bias toward currency usage. One practical approach: exact a tax on currency each time it leaves and enters the banking system.

To be effective, the tax rate charged on currency would have to be higher than the rate on checking. Indeed, currency would need to be taxed some multiple of the tax on check payments equal to what the great economist Irving Fisher called "the cash loop."

The cash loop is the average number of instances that a unit of currency is used as a means of payment between the time it enters into circulation and the time it is returned to the banking system. Fisher estimated the U.S. cash loop as approximately two payments between withdrawals and redeposit; more recently, I estimated a cash loop for the Netherlands as approximately four payments.

If the actual after-tax cash loop is eight turnovers and the APT tax rate were 0.3 per-

cent, it would be exchanged for deposit money at 98.8 cents per dollar. To distribute the added costs of currency usage, retail concerns would presumably charge a fee for cash payments in much the way as they occasionally add a premium for credit card sales.

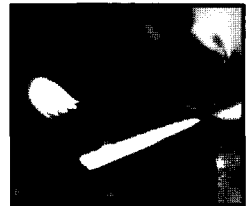
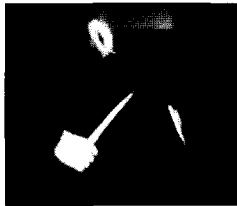
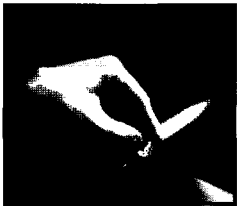
Disallowing exemptions and deductions, along with assessing and collecting taxes automatically, would eliminate the largest components of administration and compliance costs. There would no longer be a need for individuals to file tax returns, nor for companies to file information returns. The automatic revenue collection feature produces a real-time taxpayer account that automatically provides every taxpayer with a transparent record of his or her direct tax payments.

The direct costs of collecting the individual income tax in the United States amounts to between 7 percent and 8 percent of revenues raised. For the year 1982, that came to \$30 billion to \$35 billion, with taxpayers spending approximately two billion hours to comply with the law. Extrapolating these estimates suggests that total annual collection and compliance costs are well in excess of \$100 billion.

By freeing companies and individuals from the onerous and costly task of determining their specific tax base, tax rate and tax liability, the APT collection system would bring the

marginal costs of collection and compliance down to the cost of electronic transfers of information. The low APT tax rate would reduce the payoff from tax avoidance, even as the automated assessment and collection feature raised the costs of these activities.

Tax evasion is another major cost of the present tax system. The IRS projected 1992 unreported legal-source income on individual income tax returns at \$587 billion, while



cent, a 1.2 percent premium charged on currency at the point of its withdrawal from banks, coupled with a 1.2 percent discount on currency at the point of its return to the banking system, would be sufficient to equalize the incentives to use currency and checks as a final means of payment. Individuals and companies requiring currency would have to purchase each dollar of currency for \$1.012, and when currency was returned to the bank-

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my own research suggests that unpaid taxes totaled \$123 billion in that year.

Every tax can be avoided and evaded. The question is, at what cost? Since the APT tax is collected through the payments mechanism, it could be avoided by engaging in barter transactions. But barter is extremely costly, reducing the cases in which it would pay to evade the small tax to insignificant proportions. Tax evasion through "offshore" exchanges poses a subtler problem that could be addressed by structuring appropriate penalties to provide serious disincentives. One way would be to deny the parties to any untaxed transaction the right to legal protection from the state, much the way courts refuse to enforce payments in gambling debts.

A second device, proposed by Peter Kenen of Princeton University, would be to apply the tax at a penalty rate to all transactions made with financial institutions in tax-free jurisdictions. Alternatively, APT tax-compliant nations could refuse to recognize credits or debits from "offshore" havens or non-APT countries that countenance "counterfeit" financial

transactions. Every offshore exchange must have points of connection with the payment and clearing systems of the world's legitimate financial markets. These connection

points are their Achilles' heels, since, once severed from the mother ship, the tax haven ceases to function.

Under the APT system, Internet transactions that are paid by credit, debit or stored value cards would pose no collection problem. Credit and debit card payments would be taxed when the customer settles accounts with the card issuer, and stored value cards would be taxed when they were recharged

with a debit to a financial account.

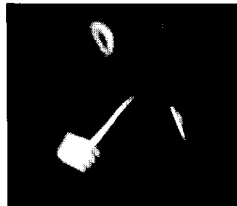
Technological innovations such as anonymous forms of digital cash that represent a private substitute for the government's present monopoly of issuing currency could raise collection problems in any tax regime. Such e-cash could accumulate and simply be transferred from party to party without returning to the banking system. Thus, if anonymous private digital cash were permitted to substitute freely for government paper currency, it could function as a tax evasion vehicle. Given this concern, it would make sense for the government to issue its own e-cash and to treat private inside money designed to evade taxes as counterfeiting.

THE ROLE OF GOVERNMENT

The APT tax system would shift the state's role from an active partner in the outcomes of the game of exchange to that of a disinterested ticket-taker. The government would simply establish the costs of admission. Those who chose to make exchanges would bear the full burden of mistakes and reap the full advantages of successes.

By the same token, the APT tax would eliminate all tax exemptions and tax credits. The history of past tax systems amply demonstrates the vulnerability to special interests of any tax system that permits exemptions, exclu-

sions and credits. According to the Congressional Budget Office, tax expenditures amounted to \$470 billion in the 1996 fiscal year. Denying the revenue collection mechanism the role of redistributing resources this way would restore the comprehensibility and simplicity of the tax system. Moreover, the elimination of hidden tax expenditures would force the government to appropriate funds for all services and transfer payments, making

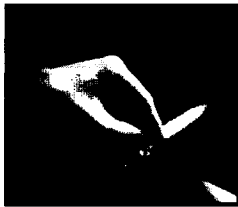


the level of expenditures explicit and subject to direct political evaluation.

The APT tax design must also address the issue of fiscal federalism. State and local property taxes and user fees would continue to provide the same level of revenue as before, since the APT is not intended to replace these revenue sources. State income and excise taxes would, however, be eliminated and replaced through the APT tax system. The states could establish resident-specific taxpayer accounts directly linked to the taxpayer's federal TPA account. Every final payment would trigger both an automatic federal payment and a state resident payment. The states could therefore collect taxes electronically as a form of automated revenue sharing.

ECONOMIC EFFICIENCY

The transactions directly associated with the production of final goods and services amount to roughly twice GDP. Thus, although these transactions represent less than 5 percent of total transactions, they constitute the principal portion of the current tax base. The APT tax on payments related to the final



production of goods and services is equivalent to a flat-rate personal income tax (on wages, interest, dividends and rents), a flat rate corporate income tax and a differentiated expenditure tax. The reduction of average and marginal tax rates on current taxable income from more than 30 percent to approximately 0.3 percent would drastically reduce the present tax incentive to substitute leisure for work. Since the APT tax system would

include neither personal deductions nor exemptions, it would also eliminate current distortions that favor some types of income while discouraging others.

When fringe benefits are not taxed as part of employee income, companies have an incentive to provide such benefits even though their costs exceed what employees would otherwise be willing to pay. Under the APT tax, employees, whose marginal tax rates on wages and salaries would be reduced from roughly 30 percent to 0.3 percent, would have little incentive to overconsume fringes, choosing instead to take wages as direct payments.

Note, too, that the APT tax would fundamentally change the incentives facing companies, altering the rules of doing business. The state's present extensive participation in the costs of doing business provides companies with perverse incentives to inflate overall costs since they now serve to reduce overall tax liabilities. Moreover, depreciation rules, interest deductions and deductibility of particular forms of compensation create major distortions in companies' choices of depreciation schedules, modes of financing investment and payment of compensation to factors of production. With the APT tax, companies would be free to select internal depreciation methods that reflect the actual replacement costs of their capital stock, the most efficient methods of financing investment and the least costly compensation packages. Finally, the APT tax would reduce distortions created by the wide range of tax rates on different classes of investment.

Subjecting trade in unfinished goods and services to the APT tax base would be analogous to introducing a small, flat-rate turnover tax. Given the knee-jerk antagonism of most economists to the mere mention of a turnover tax, it is important to clarify the like-

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ly extent and nature of the distortions. First, the turnover component of the APT would be small since total intermediate transactions make up less than 5 percent of total payments in the economy. Second, I doubt that the APT tax would result in substantial vertical integration of businesses since in most cases, gains from specialization are likely to be large relative to the size of the broad-based APT tax. More likely, the APT tax would simply slow the trend toward vertical disintegration brought about by growing markets that favor specialization. Technological advances in Internet business-to-business cost savings are likely over time to offset the incentives toward integration produced by the APT levy.

The international transaction component of the APT tax is a variant of what has become known as the "Tobin tax." Tobin's concern arose from what he considered "the excessive international – or better, inter-currency – mobility of private financial capital," which has rendered governments incapable of adjusting to disturbances in international financial markets "without real hardship and

currency fluctuations. Since the relative importance of the APT tax would decrease with the length of maturity of financial contracts, the tax would primarily affect "hot money" transactions seeking to profit from the arbitrage possibilities created by minute price differentials. Unlike the Tobin tax, which proponents see as a possible revenue source for multilateral organizations like the World Bank, the APT tax would go to national tax authorities.

All voluntary exchanges undertaken at prices that fully reflect the costs of production are "welfare enhancing," since they allocate resources to their highest valued use. The same principle applies to exchanges of assets. However, under the present tax system, the fees charged for financial exchanges only reflect private costs, while the cost of operating the government now falls on the markets for goods, services and factors of production.

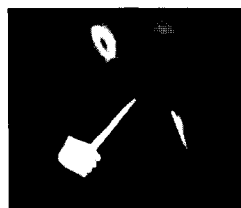
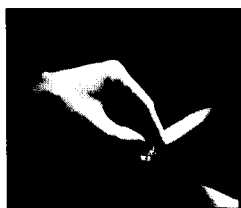
Consider, too, that speculative exchanges can lead to situations in which the losses exceed the gains. Indeed, John Maynard Keynes's argument for a tax on asset transactions has not lost its salience today, with admirers ranging from Tobin to the Stanford economist Joseph Stiglitz to Treasury Secretary Larry Summers. Of course, the direct effect of any transfer tax would reduce the liquidity of financial markets

without significant sacrifice of the objectives of national economic policy with respect to employment, output and inflation."

The advantages and shortcomings of taxing foreign transactions have been extensively analyzed. A modest tax on international flows would be unlikely to hamper international trade, being small compared with transportation costs and not exceeding the cost of using forward and future markets to hedge against

and might increase price volatility. However, if the imposition of the APT tax were synchronized with the elimination of capital gains taxation, the net effect would surely be to increase market liquidity.

The APT transfer tax would provide an incentive to lengthen the holding period of both equity and debt instruments. The biggest effect would be on short-term trades intended to capture small percentage returns



to portfolios by getting on or off the “bandwagon” of what is believed to be current market psychology. By increasing the cost of frequent trading, the APT tax provides incentives for analysts to direct their talents to the search for long-term profits rather than short-term trading. Summers has also argued that the higher costs of frequent trading would extend corporate management’s investment horizons and give shareholders greater incentives to monitor management.

To calculate the net effect of replacing the current tax system with an APT tax, one must also take account of the elimination of wealth taxes. Debt would become more costly as the government would now charge a brokerage fee, much the way as banks currently impose “points” for lending. The loss of deductibility of interest would also discourage borrowing. Offsetting these disincentives are the reductions in income and inheritance taxes and the elimination of capital gains taxes.

CONCLUSIONS

To assess the desirability of the APT tax proposal, we must weigh its likely benefits

against its likely costs. The benefits include estimates of the total allocation, administration, compliance and evasion costs

of the present system that the APT tax would replace. Eliminating the waste linked to price distortions created by the current tax system could yield annual benefits in excess of \$250 billion. The elimination of tax and information returns could yield added compliance costs savings between \$100 billion and \$200 billion a year. To these savings, add the reduced administrative and enforcement costs resulting from the unique automated

collection mechanism of the APT system. The quantifiable benefits of eliminating the current tax system are therefore likely to range from \$350 billion to \$500 billion per year. The intangible benefits of greater simplicity, transparency and equity would be pure gravy.

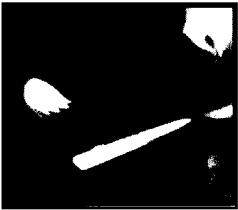
Against these benefits weigh the costs of the new distortions the APT system is likely to introduce, along with the costs of transition. I have tried to make the case that the benefits are likely to exceed the costs by a substantial margin, but many details need further elaboration. We must learn more about the institutional complexities of domestic and international equity, debt and derivative markets, and acquire better estimates of the extent to which transaction volumes are likely to fall in response to the imposition of the APT tax.

By the same token, the distributive consequences of the APT tax system appear to be progressive since the tax would fall disproportionately on asset exchanges by wealthier citizens. The tax would, however, induce responses that diminished its initial redistributive consequences. Note, too, that since tax expenditure redistributions are not an

option under the APT tax, any further efforts at redistribution would have to be made through explicit government expenditures.

The APT tax proposal embodies the principles that

have guided all successful tax reform proposals: simplicity, equity, efficiency and reduced costs of administration and compliance. To achieve these ends, it contemplates revenue neutrality, base broadening, the reduction of marginal tax rates, a single flat tax rate, the elimination of tax loopholes, the end of tax returns and information returns, and the automatic electronic assessment and collection of taxes. Not a bad deal, really. 



Who
wants
to be a ...

Analyzing Manny, A-Rod

Ramirez ranks among the all-time best in two important offensive categories; Rodriguez has hit for better power than any young shortstop in the game's history.

Manny Ramirez vs. Alex Rodriguez									
	1995	1996	1997	1998	1999	2000	2001	2002	2003
OPS	1.12	1.15	1.18	1.21	1.24	1.27	1.30	1.33	1.36
Slugging %	0.48	0.50	0.52	0.54	0.56	0.58	0.60	0.62	0.64

All-time career slugging percentage leaders			All-time career OPS (on-base plus slugging percentage) leaders		
1	Edie Rich	0.70	1	Edie Rich	1.164
2	Ed Williams	4.34	2	Ed Williams	1.115
3	Yon Gentry	6.32	3	Yon Gentry	1.099
4	Tommy Page	6.07	4	Steve Thomas	1.033
5	Mark Greenberg	1.05	5	STEVE THOMAS	1.018
6	TOBY HELLSON	1.01	6	Mark Greenberg	1.017
7	WALTON MCWILLIAMS	5.91	7	TOBY HELLSON	1.012
8	WALTON MCWILLIAMS	5.92	8	Tommy Page	1.003
9	MANNY RAMIREZ	5.41	9	MANNY RAMIREZ	0.938

Alex Rodriguez vs. Hall of Fame shortstop
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Four of baseball's biggest stars have hit the market, and these free agents are anything but free.

By Bob Nightengale

SCOTT BORAS stood on the balcony of his plush, eighth-floor hotel room overlooking the Atlantic Ocean this past week in Amelia Island, Fla. He had a phone to one out and 15 general managers knocking on the door hoping to get in on the Alex Rodriguez sweepstakes.

Jeff Mottus hurried to catch flight 111 to Chicago County, Calif., stopping for a layover in Minneapolis, anticipating that the Seattle Mariners and New York Yankees would be arriving in his New York Beach, Calif., office early next week, ready to make offers for Manny Ramirez.

Mark Rodgers drove two hours from Amelia Island to his office in Port St. Lucie, Fla., knowing that which the country is awaiting the outcome of the presidency in his home state. 12 baseball teams are awaiting a decision from Mike Hampton.

Armstrong sat back in his plush office in Brentwood, Calif., realizing that Mike Mottus has a much bigger, with every big-market team looking for his services.

These four big-league agents represent the mother lode of the finest free-agent class in baseball history.

No member of this quartet, excepting in ages from 25 to 31, has won a Most Valuable Player award. None of them has won a Cy Young award. None has ever played for a World Series championship team. Yet, they could change the landscape of baseball for the next 10 years, perhaps even longer.

The winners of the four free-agent sweepstakes will be considered perennial World Series contenders for the duration of their playing careers. Then again, for that kind of money, you'd better expect to win.

The four players each gambled that by rejecting his respective team's offer during the spring or summer, they would be the jackpot by visiting for free agency.

Each player is virtually guaranteed of receiving a contract that will pay at least \$14 million a year, as part of a total package that will be worth in excess of \$40 million.

That could be just chump change for Rodriguez. He's at the start of receiving the richest long-term contract ever given to an athlete in a team sport. Forget the operation of a 10-

year, \$200 million deal. It won't be long and he'll be richer.

Ramirez already has rejected a seven-year, \$119 million deal, which would have provided him the richest contract awarded to a baseball player.

What separates these four magnificent players from their 153 peers who also fled for free agency is their talent level. Rodriguez might be the greatest offensive shortstop in history. Ramirez is among the greatest sluggers to hit the open market since Reggie Jackson.

Hampton could be the most dominant pitcher since Bob Gibson. Mottus wins games with an almost knock-out consistency.

"You have to say this, particularly with all of the money we're talking about," one veteran general manager said, "but all four of these guys are worth it. I mean, whenever you get these guys, particularly A-Rod, should be good for a long time. I know if I had A-Rod, I could sleep like a baby for the next 10 years."

The crazy thing is, and we were talking about it among ourselves, can you imagine if one team somehow

weren't even pay for some of the perks that Rodriguez is asking for, can they run they won't be in waste anyone's time.

Although the four free-agent agents' companies represent, virtually the same teams are involved in all of the negotiations, which could lead to spirited bidding these next few weeks.

Rodriguez has 15 teams interested in his services, but considering that no one will be able to take him for less than \$200 million, Boras said that he will reduce the number to about five or six teams this week. They are expected to be the Mariners, Atlanta Braves, Chicago White Sox, Colorado Rockies, Los Angeles Dodgers, and perhaps the Cleveland Indians.

Ramirez, who hasn't led the list that his first choice is Cleveland, is expected to go to the Indians, Yankees, New York Mets, Mariners, Rockies, Detroit Tigers or Texas Rangers.

Hampton, who still is trying to fight off the perception that he won't consider an All-Star, has 12 clubs expected to make offers. In the end, he likely will choose between the Mets, St.

Louis Cardinals, Houston Astros, Chicago Cubs, Yankees, Braves, Indians, Mariners and Dodgers.

Mottus, who has heard Baltimore Orioles owner Peter Angelos say that he won't pay any pitcher \$15 million a year, will be the first of the quartet to sign, insiders predict. His final choice likely will be the Orioles, Yankees, Indians and Boston Red Sox.

"From our perspective," Mets GM Steve Phillips said, "I have serious reservations that a structure in which you have a 24-plus-one-man roster really works. I don't think it works to have that structure added to the New York setting, to a team that already has star status, compromises the fabric of the team."

The Mets are expected to turn their attention to Hampton and show a strong interest in Ramirez.

Virtually every team in baseball is interested in at least one of the four. OK, we'll not quote everyone. The Minnesota Twins, whose payroll last year

weren't even pay for some of the perks that Rodriguez is asking for, can they run they won't be in waste anyone's time.

"I don't think people realized what his stature was," Boras said. "We wanted the press to focus on just what he has done at 24, to show that he's the first slugging shortstop baseball has had in history. Ernie Banks was a slugger, but he later became a first baseman. No one this young has hit with this kind of power."

The next 64 pages prove Boras' case. It ranks Rodriguez against every 140 of fame shortstop, showing that his offensive stats will dwarf every shortstop in history. It ranks him against Derek Jeter and Nomar Garciaparra, showing that while they might be elite shortstops, there is only one A-Rod. It projects Rodriguez's numbers for the rest of his career.

If you want Rodriguez, who actually is 25 years, 3 months old, for the next 15 years, here's what you'll get: He'll have about 3,916 hits, a record 778 home runs, 2,412 RBIs, 2,373 runs, 536 stolen bases, a .312 batting average, .377 on-base percentage and .511 slugging percentage.

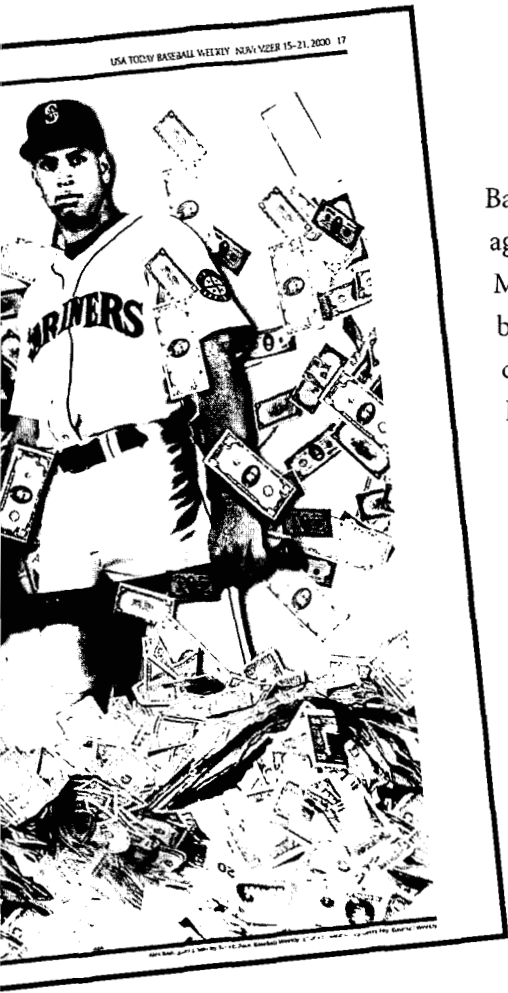
He can be 42 years in the next price of well, no one is saying. Let's put it this way: The 10-year, \$200 million contract is a bargain of terms. Inexpensive. He's expected to earn at least a 10-year contract for perhaps \$200 million. Maybe even more. Much, much more.

The contract will include provisions and escalation clauses that will assure Rodriguez of being the highest-paid player throughout the deal.

(CONTINUED ON NEXT PAGE)

Competitive Baseball In Major League Baseball

By Andrew Zimbalist



Baseball 2000 is history. It was not a bad year in the aggregate, but try telling that to fans in Montreal, Minneapolis, Milwaukee or a dozen other cities not beginning with the letter "M," that couldn't begin to contemplate signing Alex Rodriguez (for \$252 million over 10 years) or Manny Ramirez (for \$160 million over eight years). Baseball commissioner Bud Selig says the game's economic system is broken and needs immediate repair. Here is some of the evidence he adduces.

Dividing Major League Baseball teams into quartiles according to their total payrolls reveals some dismaying realities about the five seasons following the 1994 television agreement and players' strike:

- No team in the bottom two quartiles won any of the 158 playoff games.
 - Every World Series champion was from the top quartile, and no club below the first quartile won a single World Series game.
 - The only club outside the first quartile to reach the World Series was the San Diego Padres (in 1998). The Padres lost in four straight games to the New York Yankees.
- This pattern was broken in 2000 – but only a bit. Of the eight playoff teams, three came from below the top-10 in team payroll: the San Francisco Giants (\$54 million payroll), the Chicago White Sox (\$37 million) and the Oakland Athletics (\$32 million).

None of the three teams, however, made it beyond the first round Division Series. By contrast, the first and fifth payroll teams made it to the World Series, and, once again, the top payroll team won. Of the 48 playoff spots during the six-year stretch from 1995 through 2000, only three went to clubs in the bottom half of team payrolls, and these teams won only three out of 189 postseason games.

Of course, there has always been some degree of competitive imbalance in baseball, and as long as one team has something other than a 50 percent chance to win a game there always will be. Viewed as a business, baseball or any other sport would rather have teams from bigger cities win more frequently than teams from smaller cities. Big-city teams raise national television ratings for postseason games.

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But you can only take this logic so far. If teams from small or medium markets have but miniscule chances to play in the postseason, let alone to win the World Series, local fans would lose interest.

Increasingly, baseball seems to be in this predicament. Despite the unveiling of several

use the standard deviation of winning percentages as our gauge, there was a gradual, increase in baseball's competitive balance between 1903 and the 1980s. The improvement was most striking after the introduction of the reverse-order amateur draft in 1965.

Free agency gave competitive balance a further boost after 1976. Once players became

While the revenue disparity between the richest and poorest team was around \$30 million in 1989, by 1999 it had reached \$164 million.

new stadiums and successful assaults on the single-season home run record, baseball's attendance per team has leveled off, and television ratings for both in-season and postseason games have dropped. Outside of New York, there was near apathy about the vaunted subway series this past fall.

Some say the past five years represent nothing more than the ascension of another Yankee dynasty. The last period of Yankee dominance in the 1950s and early 1960s, however, was not a time that baseball should seek to emulate. Between 1950 and 1965, average attendance at games grew by less than 3 percent, even though real ticket prices remained virtually flat, and real disposable incomes in the United States grew by 74 percent. Moreover, four and five decades ago baseball stood alone on the pedestal of popular team sports. Today, it is challenged by the NBA and the NFL, as well as by the growing list of new professional sports and entertainment options.

Competitive balance in baseball improved from 1965 through the 1980s. In fact, if we

free to join new teams, it became more difficult to hold a winning team together. The era of team dynasties seemed to be gone forever, and Major League Baseball's 1990 economic study committee found only a slight correlation between city size and team performance.

Then came the 1990s. At first, the news was good. Baseball signed a new national television contract with CBS and ESPN for 1990-93, which together with growing central licensing, the rise of cable superstations, and Copyright Royalty Tribunal revenue, meant that each team received \$19 million a year. In 1990, this amounted to almost 40 percent of average team revenue.

But baseball's new national television contract in 1994 cut payments by over 60 percent. Exacerbating matters, big-market teams were getting rich on unshared local media revenue – the Yankees were earning \$40 million a year – and the era of stadiums designed for revenue was ushered in by Baltimore's Camden Yards in 1992. With centrally distributed monies down sharply, teams with big markets or new stadiums stuffed with skyboxes found themselves with a growing advantage.

While the revenue disparity between the richest and poorest team was around \$30 mil-

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lion in 1989, by 1999 it had reached \$164 million. That latter year, the Yankees earned \$176 million in local revenue, while the Montreal Expos managed just \$12 million.

To this volatile mixture, add new franchise owners who controlled international com-

for 2001-02), he had in mind a new sports channel built around the Yankees.

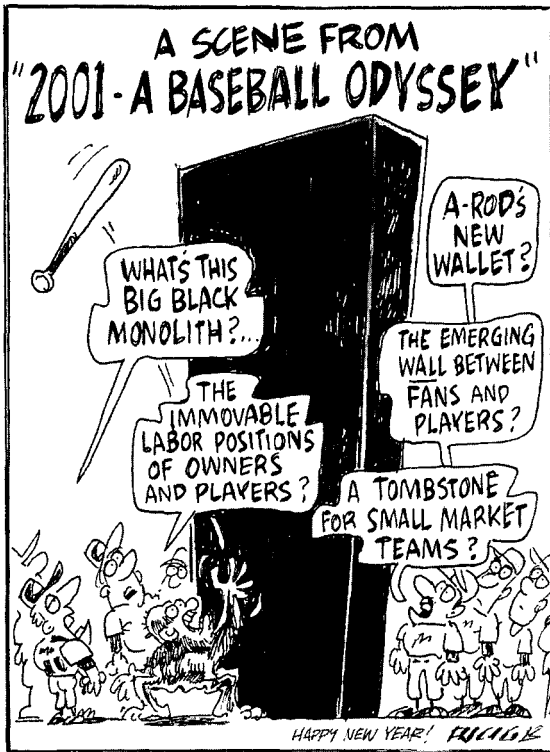
Further, consider the impact of baseball's expansion by four teams in the 1990s. While adding excitement to the game, it makes the star players stand out more – which in turn makes it easier to buy a winning team.

This takes a bit of explaining. Let's start with the evidence. There have been just 16 perfect games pitched in 98 years of modern baseball history, but two of those were in the last three years. Sixty home runs stood as a single-season record for 34 years; 61 homers stood for 37 more. Then two players hit 66 and 70, respectively, in one year.

Note, too, that almost all of baseball's personal achievement records were set in a narrow span of years. Rogers Hornsby batted .424 in 1924, Hack Wilson knocked in 190 runs in 1930, Earl Webb whacked 67 doubles in 1931, Babe Ruth scored 177 runs in 1921, and Dutch Leonard had a 1.01 ERA in 1914. Many people believe that the players then were simply better. A more plausible explanation is that baseball stats are the product of competing forces, and that records are

determined by the relative degree of talent compression.

The distribution of baseball skills follows the familiar bell-shaped curve. The larger the number selected to play major league baseball, the greater will be the difference between the best and the worst players. If the population grows and the number of teams does not, the proportion of the population playing the game professionally falls and the distribution of talent becomes more compressed. This is what happened between 1903 and 1960, with the population growing from 80 million to



MIKE RUCIGLIANO

munications networks or were attempting to build regional sports channels. These owners value their ballplayers not only by what they produce on the field, but also by what they produce for their networks. When Rupert Murdoch signed 33-year-old Kevin Brown to a seven-year deal worth an average of \$15 million annually for his Los Angeles Dodgers, he was thinking about the News Corp's emerging influence in Asia via satellite television. When George Steinbrenner opened the New York Yankees' vault for David Cone (\$12 million in 2000) and Roger Clemens (\$30 million

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181 million and the number of teams remaining constant at 16.

Moreover, in the late 1940s baseball began to accept black players and recruit Latin and other international players in greater numbers, enlarging the pool of potential players and increasing the compression. The difference in skills between the best and worst players narrowed, and it became more difficult for the best players to stand out.

It thus makes little sense to argue that Ruth hit more home runs per season than Harmon Killebrew because he was stronger or had superior baseball skills. More likely, Ruth played during a time when talent was more dispersed, so he faced weaker pitchers. Similarly, Walter Johnson (ERA of 1.09 in 1913) faced weaker hitters than did Sandy Koufax, Ron Guidry or Roger Clemens.

The ratio of the U.S. population to the number of major league players rose from 250,000 to 1 in 1903 to 452,500 to 1 in 1960; thereafter it fell gradually to 360,000 to 1 in 1998, after MLB's second expansion by two teams in the nineties. Thus, by 1998 talent dilution had almost reached the level of 1930.

So, today, the McGwires and Sosas can more easily excel. To the point here, when the better players can more reliably outperform the others, it becomes easier to buy a winning team. It is one thing for the Yankees to generate \$176 million in local revenue while the Expos generate \$12 million. If the teams spend their very different talent budgets inef-

ficiently, the Yankees may squander their revenue advantage. But in a world in which the best players are more easily identified, management ineptitude is less likely to offset purchasing power disparities.

In 1995, the payroll of teams in the top quartile was 2.6 times that of the bottom



quartile. But by 2000 the top quartile was spending 3.5 times as much on payroll as the bottom quartile. And by no coincidence, correlation between team payrolls and team won/loss percentages was statistically significant at a 99 percent probability level in every year between 1995 and 2000 (and in no year between 1985 and 1994).

This does not mean that rich teams are guaranteed to finish first, or that an occasion-

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al impoverished team cannot win its division. It does, however, mean that the probabilities have shifted sharply against low-end teams, undermining fan interest.

WHAT IS TO BE DONE?

Last year, Major League Baseball's team owners nominally gave commissioner Bud Selig

willing to share his local television money, what would Selig do about the Players Association? Revenue sharing among franchises is subject to collective bargaining – and with good reason. The more revenue that gets shared, the lower the payoff to having a successful team, and the less a player is worth to an individual owner. That helps to explain

By 1998 talent dilution had almost reached the level of 1930. So, today, the McGwires and Sosas can more easily excel.

the authority to do whatever was necessary to ensure competitive balance. The problem is that competitive balance can't be achieved without finessing the interests of the rich teams' owners, who do not want to part with their revenue advantage, and the Players Association, which resists change that does not clearly serve the players.

If we take MLB's press releases at face value, George Steinbrenner, Rupert Murdoch and Peter Angelos, owners of the high payroll Yankees, Dodgers and Baltimore Orioles respectively, would sit idly by if Selig decides that all local media money must be distributed equally among the clubs. Maybe so, but I would bet that before that happens, John Rocker will win the Nobel Peace Prize.

More likely, Steinbrenner, who has already sued baseball once on antitrust grounds so he could pursue his sponsorship deal with Adidas, would take MLB to court, claiming that his property was being confiscated. Selig must also know that any initiative to redistribute the game's riches would smack of conflict of interest; as an owner of a small-city team, the Milwaukee Brewers, he has a major stake in spreading the wealth.

Furthermore, even if Steinbrenner were

why the National Football League has higher revenue and higher franchise values, but pays a third less than baseball.

While the players accepted the revenue sharing that was added in the 1996 collective bargaining agreement (in 2000, \$155 million went from the top teams to bottom teams), it is likely that they will want concessions in exchange for further redistributions. They should also want a say in how the revenue sharing is managed. If the formula were built around teams' *actual* revenues, each franchise would have less incentive to pay a player his full value, because some of that value would be shared with other teams. If, however, the sharing were out of *potential* revenues (based on the size of the local market and stadium conditions), teams would have a greater incentive to win and pay players what economists call their "marginal revenue product."

The owners also declared last year that teams would pool their separate Internet businesses. Once MLB's contract with SportsLine.com ends after the 2001 season, baseball's central office will be able to make deals with national advertisers and sponsors for its newly controlled Web site. It is possible, but hardly inevitable, that this will generate more

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revenue than 30 separate Web sites.

But how much money will there be? Today, the most successful team Web sites gross around \$1 million each. But if more companies advertise on Internet sites, won't there be less demand for advertising at the ballpark and on television? Similarly, if more goods

accounting principles, I can turn a \$4 million profit into a \$2 million loss, and I can get every national accounting firm to agree with me."

Nor is profitability (or lack thereof) adjusted for the high levels of waste in baseball's management. Last year Jerry Colangelo, managing general partner of the Arizona Diamondbacks, told the *Arizona Republic* that

The Commissioner would be able to use any increase in central fund distributions above \$13 million per club to make unequal distributions to assist low-revenue clubs.

sell on the Internet sites, won't fewer goods be sold via other channels?

THE BLUE RIBBON PANEL RECOMMENDATIONS

The Report of the Independent Members of the Commissioner's Blue Ribbon Panel Report on Baseball Economics, issued last July, offers insights into how MLB plans to cope. Indeed, with members including Richard Levin, the president of Yale, George Mitchell, the former Senate Majority Leader, Paul Volcker, the former chairman of the Federal Reserve, and George Will, the newspaper columnist, it is hard to see how the report could be ignored.

Forbes staff writers Michael Ozanian and Kurt Badenhausen denounced their effort as a "charade" in *The Wall Street Journal* because its authors uncritically accepted MLB's claim that only three teams made money between 1995 and 1999. To be sure, this claim is not credible. Baseball accounting provides all sorts of ways to hide profitability, as MLB's current president, Paul Beeston, instructed us several years ago: "Under generally accepted

he could cut front office expenses by \$10 million without affecting the team's operation or the product. If the quality of the team could be maintained with \$10 million less, why was this money being spent in the first place?

Back to Ozanian and Badenhausen. They refute MLB's profitability figures with their own estimates of MLB franchise values, which reveal substantial appreciation over the last two decades. Franchise values, they reason, would not have risen if the industry were not profitable.

They are half right. First, their data show appreciation over a longer time span than the period considered by the report. Second, franchise values properly reflect *expected future profits*, not current profits. Third, there are multiple ways an owner can receive a return on investment in a baseball team besides cash flow. These include synergies that make ancillary businesses more profitable, greater ability to shape interest group legislation, enjoyment of the power and perquisites of ownership, tax shelters, and so on. The value of a franchise will reflect all these sources of investment return, not just profits.

That said, it is likely some teams in MLB do have financial difficulty, while many do not. The Blue Ribbon Report unquestionably loses some credibility by uncritically regurgitating owners' claims of financial woes. Similarly, the Report loses credibility when it



asserts that higher player salaries lead directly to higher ticket prices rather than reduced franchise profits.

But the bulk of the 87-page Report offers solid evidence of baseball's growing competitive imbalance, and interesting ideas on what to do about it. First, the authors say, MLB should levy a 40 to 50 percent tax on a club's net local revenue, then put the money into a central pool and distribute 1/30th of the pool to each club. The 1999 revenue-sharing plan,

by contrast, had each club (excluding the expansion teams) contribute roughly 17 percent of its net local revenue to such a pool. Three-quarters of the distributions from the pool were then made equally to 28 clubs, with the remaining quarter going only to teams at the bottom. In 1999, the Yankees contributed a net amount of \$18 million, while the three bottom clubs received a net \$23 million, \$20 million and \$15 million respectively.

In the Blue Ribbon Panel's plan, the Yankees' contribution would rise to approximately \$21 million (using 1999 figures and assuming (a) the tax is set at 50 percent, (b) Yankee stadium expenses are \$20 million, and (c) total MLB stadium expenses are \$500 million). That is, the Blue Ribbon plan would only increase the net Bronx Bombers' contribution by some \$3 million – not much for Steinbrenner to squawk about.

The real impact would come indirectly, through the incentive effect of this local revenue tax. Assuming the tax was set at 50 percent, each increment to a

team's net local revenue would be reduced by 48.3 percent. This is because half would be taken away by the tax and 1.67 percent would be returned by the equal distribution from the pool to each club. Now, suppose Steinbrenner were contemplating signing Johnny Damon and estimated that, with Damon in the Yankee outfield, the team would generate an additional \$16 million in annual local revenue. Without the local revenue tax, Steinbrenner should be willing to

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offer Damon any salary up to \$16 million. With the tax, he should be willing to offer only \$8.27 million [$\$16 \text{ million} \times (1 - 0.483)$].

Thus, the redistributive impact of revenue sharing is likely to be considerably weaker than its negative impact on salaries. Perhaps this explains why the panelists did not recommend a salary cap – and it would certainly explain why the Players Association would trash this method of revenue sharing.

The panel's second recommendation – for an additional 50 percent tax on team payrolls above a fixed \$84 million threshold – would create a further impediment to the upward drift of salaries. What is most notable here is not the \$84 million threshold, which is close to the threshold of the luxury tax on team payrolls in 1999. Rather, it is the suggestion that the threshold be fixed, even as MLB's revenue continues to grow.

The third recommendation is also problematic. The Commissioner would be able to use any increase in central fund distributions above \$13 million per club to make unequal distributions to assist low-revenue clubs. Since the new television contracts with ESPN (2000-05) and Fox (2001-06) are projected to raise the average annual payout per team to \$19.1 million (from \$11.6 million), this recommendation would put a very significant sum at the discretion of Commissioner Selig and, therefore, may be resisted by high-revenue clubs. An interesting feature of this recommendation is the panel's suggestion that only clubs meeting a \$40 million minimum payroll would be entitled to receive extra distributions from the Commissioner. This would throw a bone to the Players Association and minimize the ability of clubs to free ride on high-revenue franchises.

The report also recommends changes in baseball's draft. The reverse-order draft for

amateurs was introduced in 1965. Almost overnight the (old) Yankee dynasty was ended and baseball entered an era of unprecedented balance that lasted until the mid-1990s.

Yet while the selection of amateur players through the draft was initially an important leveler, the effect diminished – perhaps even reversed – in the 1990s. To see why, start with the fact that revenue disparities exploded in this period, and these inequalities were reflected in vastly different player development budgets. In 1999, the Yankees spent over \$20 million on player development, while the Oakland Athletics invested less than \$6 million. This means that the Yankees, who are willing to pay far larger signing bonuses, have greater success in signing foreign players as free agents.

Only U.S. residents and Puerto Ricans (and foreigners enrolled at U.S. universities) are subject to the reverse-order draft. All other foreign ballplayers come to the U.S. as free agents. And after the collapse of the former Soviet trade bloc and the ensuing meltdown of the Cuban economy, the supply of ball playing Cubans began to expand. More or less simultaneously, free agency rules in Japanese baseball and government conscription regulations in Korea were liberalized, increasing the pool of Asian candidates.

As the foreign free agent market developed, agents staged foreign player workouts for prospectively interested teams. At first, these workouts were attended by scouts from most teams. But as the signing bonuses grew, the number of teams represented diminished.

As the signing bonuses for foreign free agents increased, U.S. amateurs also demanded higher bonuses. Rather than lose draft picks, low-revenue teams began to skip over the top prospects. The high-revenue teams, though lower in the drafting order, started to get better domestic, as well as foreign, talent.

Thus, changes signing new talent, which had promoted competitive balance, seem to be aggravating imbalance today.

The Blue Ribbon Panel sensibly recommends that baseball's amateur draft be made worldwide. The Players Association is likely to resist, however, arguing that the draft, which exploits young American ballplayers by mak-

would then have an initial choice between two teams, but could not re-enter the draft a year later and be selected by different teams, as is the case today. Such a rule should improve the chances that low-revenue teams could actually sign the players they draft.

The Blue Ribbon Panel report also recommends allocating "a disproportionate number

Owners on the lower half of MLB's economic ladder might well opt to minimize payrolls and ride the revenue transfers to profitability.

ing it impossible for them to auction their services, should not be extended to exploit foreign players as well. Instead, the Players Association may seek a modification in the draft process in exchange for internationalizing the draft. They might, for example, demand that two teams be allowed to draft each player, creating some competitive pressure in determining the player's signing bonus.

Why does the players' union get to bargain over baseball's draft rules? The union won an arbitration ruling back in 1992 that made the draft a subject of mandatory bargaining on the grounds that free agent signings are compensated by transfers of draft picks.

Since the owners originally sought the system of free agent compensation both as a way to lower demand for free agents and to support greater balance on the field, it is possible they could now seek to remove the compensation rules. Without such rules, draft procedures would no longer be a mandatory bargaining subject.

Alternatively, the owners may seek a reciprocal concession from the players. In return for letting two teams draft one player, they may ask that the drafting teams be given permanent signing rights. The drafted player

of picks to chronically uncompetitive clubs." This idea seems fine as long as the extra draft picks are not a reward for free riding. That is, there should be a string attached, requiring teams to spend some minimum on payroll in order to qualify for extra picks.

All told, these changes in baseball's drafting system would likely be constructive. They would promote balance without engendering conflict among the owners over additional revenue sharing, and hopefully, without stirring opposition from the Players Association because of new artificial salary restrictions.

Of course, reforming the draft alone would at best have only a short-run impact on competitive balance, since highly valued, arbitration-eligible players would likely be traded away to high-revenue teams. Economists will recognize this effect from the well-known Coase invariance theorem: whatever the initial allocation, players would eventually migrate to the teams where their marginal revenue product is highest. So to remain effective over time, any reforms baseball adopts in the name of competitive balance will have to sustain both the financial means and incentives for clubs to compete on a more equal footing.

BASEBALL

The last major recommendation of the panel is that MLB “utilize strategic franchise relocations to address the competitive issues facing the game.” In plainer English, MLB should allow teams in cities that won’t build new ballparks with public funds to move to cities that will. Thus, the Montreal Expos might move to Northern Virginia and play in a new stadium with a larger, more enthusiastic market. Not only would the Expos be more likely to become a competitive team, the franchise would generate two to four times as much revenue and eliminate the need for subsidies from the high-income clubs.

Although MLB has allowed teams to *threaten* to move in order to elicit public subsidies, MLB has not permitted a team to move since 1972. That policy seems ripe for revision. Yet how would MLB decide when a market is dormant, and thus a candidate to be abandoned? Most baseball markets are made, not born. Fans respond to competitive teams and charismatic players. Ineffective ownership can ruin a strong market. Should fans in such a city be penalized for the owner’s ineptitude?

Remember that MLB is a legal monopoly. It is largely this condition that gives franchises the leverage to extract public stadium subsidies that make wealthy owners and players even wealthier. From the public’s perspective, the solution to the subsidy extortion problem is straightforward: break up the monopoly. More specifically, make MLB divest into two competing business entities while allowing the two entities to collaborate on rule-setting and postseason competition.

With two separate businesses, it would be inconceivable that Washington, the nation’s seventh largest media market, would be without a franchise for 28 years. Just as McDonald’s and Burger King race to be the first to open a new restaurant at any promising street

corner, each of the two leagues would try to exploit a potential market. Worthy host cities would not have to go begging for teams. Moreover, cities like New York might find themselves with a third or even a fourth team, and the relative revenue advantage of the Yankees would diminish.

The problem with this plan is political. Such a divestiture policy has about as much chance being implemented as Ralph Nader had of being elected president. So we must look for second-best solutions, and the Panel’s proposal points in a useful direction.

Along with the legal issue of violating the property rights of high-revenue teams and the economic issue of diminishing player value, revenue sharing raises a key question of ownership incentives. If sharing is done out of actual revenues, then the incentive to build a winner is blunted. Owners on the lower half of MLB’s economic ladder might well opt to minimize payrolls and ride the revenue transfers to profitability.

Indeed, several teams have already pursued such a strategy. Ironically, MLB’s 1996 revenue-sharing plan may have exacerbated rather than ameliorated competitive inequality on the playing field.

It is worth noting, too, that other factors will tend to level the competition in coming years. The inequality engendered by new stadiums will recede as the novelty effect on revenue begins to wear off and Pittsburgh, Cincinnati, Milwaukee, San Diego and other teams begin to benefit from new facilities. Also, the increase in shared national media revenue by some \$6 million per year per team should provide a modest equalizing effect.

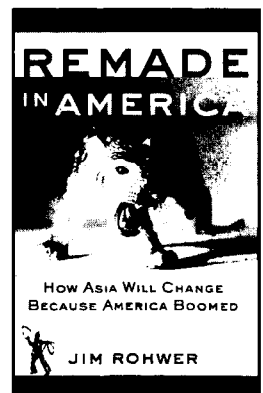
For these and other reasons, it is necessary for baseball to proceed with much care in introducing additional revenue sharing. It is possible that errant reform will produce more harm than good. 

Remade in America

ILLUSTRATIONS BY
MARK VON ULRICH

One reviewer called Jim Rohwer's 1995 book, *Asia Rising*, "the modern single-source introduction to why Asia, in general, and China, in particular, are set to be the world's 21st century center of economic gravity." Today, the Asian economies are still coping with the consequences of the 1997 financial crisis that exposed the weaknesses of top-down crony capitalism. Undaunted, Rohwer is back with an equally optimistic take on the economic future of the continent. The Asian economies will prosper, he predicts, because they are incorporating the model that led to the reinvigoration of the American economy in the 1980s and 1990s. ¶ I take Rohwer very seriously, for few observers are as well positioned to chart Asia's future. A contributing editor to *Fortune*, he earned his spurs as an emerging-market strategist for CS First Boston and as executive editor of *The Economist*. And, unlike a few other economists we know and love, he really understands how to string sentences together. Check out this excerpt.

BY JIM ROHWER



If any one symbol had to be chosen for the worldwide Internet bubble at its most distended, it may have come in Hong Kong on New Millennium's Eve rather than in the bubble's birthplace in America. That Dec. 31, Richard Li, the 33-year-old son of Hong Kong's richest man and himself a fast-rising Internet and high-tech entrepreneur, threw a dinner party for 1,000 people on behalf of the Hong Kong Cancer Fund in the Hong Kong Convention Center. The party was called Utopia,

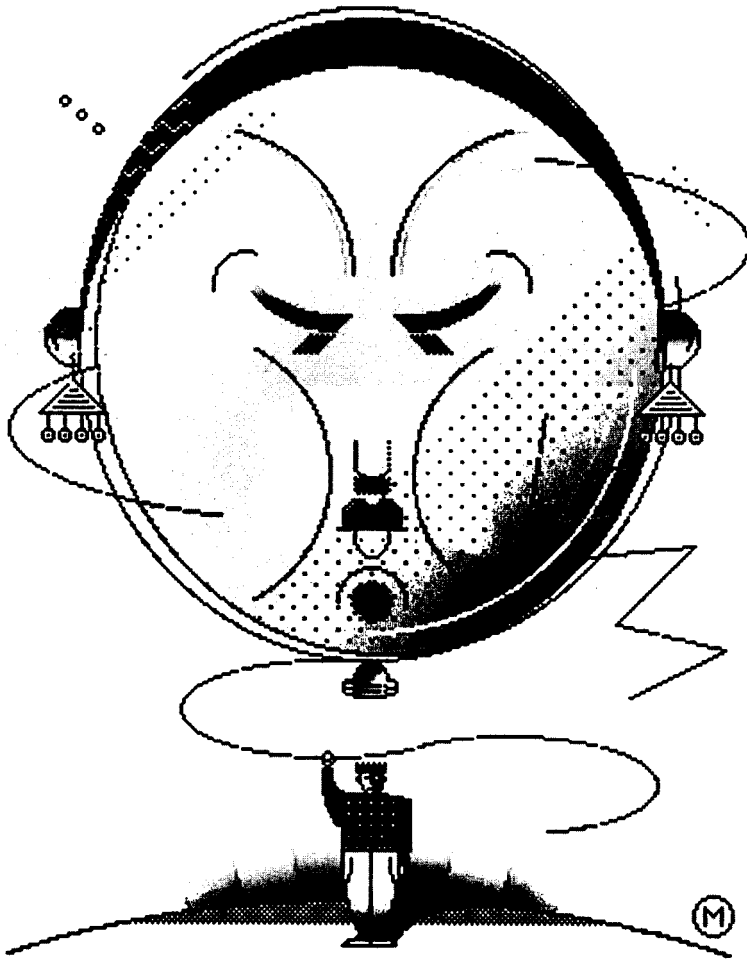
and the guests, asked to come in "Cyber Couture or Black Tie/Shimmer and Shine/Glitter and Glow," were treated to endless food and drink, a laser light show, various Asian and Western entertainers, an all-night disco, and Western and Asian breakfasts in the morning. The centerpiece was a live performance by Whitney Houston, flown in from America with an entourage of 55, to usher in the New Year. The assumption is that Li spent \$4 million on this, of which Whitney Houston's share came to \$2 million. (She was worth it, by the way.) How much more was spent by sponsors, like the provider of the champagne or other companies hosting tables, is anybody's guess.

During the course of the evening, Li slipped out to a bare plot of land a couple of miles away on Hong Kong Island's northern shore. He presided over a spectacular outdoor laser light show, introduced through video by Professor Stephen (A *Brief History of Time*) Hawking and intended as a sort of modern groundbreaking ceremony for the cyberport that Li was starting to build to house Internet and other high-tech companies. After years of mostly ignoring high technology except when it came in boxes and could be exported, Asia had, by 1999, come down with a raging case of Internet fever. During 1999, one Asian

Internet stock index rose more than half again as fast as an American counterpart (which itself more than doubled). Korea's Kosdaq index more than quadrupled. By the end of 1999, high-tech stocks in Taiwan accounted for 80 percent of market turnover, up from 30 percent a year earlier. Internet indexes throughout Asia outperformed general indexes by about four to one.

Some individual companies did even better. China Telecom (Hong Kong), the arm of a mainland mobile telephone operator, rose about 2½-fold in a year when the Hang Seng index was up by about a third – in other words, eight times faster than the market in a year when the overall market's performance was excellent. By February 2000, China Telecom – later renamed China Mobile – had the biggest market cap in Hong Kong, surpassing HSBC, the world's most profitable bank. And on Dec. 23 1999, the day Nasdaq broke through the 4,000 level for the first time, Pacific Century CyberWorks (PCCW), the Hong Kong-listed vehicle for Richard Li's high-tech operations, went up 41 percent. That extravagant New Millennium's Eve party could have been paid for with less than one one-thousandth of the increase in PCCW's market capitalization on that single day.

There is the fundamental question whe-



ther in America, Asia or anywhere else, the level of high-tech stocks is evidence of a true asset bubble or of a historic shift in the structure of the economy and in the proper way to value stocks in relation to other assets like bonds. That argument can and probably will run for years. Here, it is worth recalling some observations made by Warren Buffett in 1999 on the level of stocks in America. Buffett, who rarely comments on the stock market as a whole, argued that it was highly improbable stocks would do as well from 1999 to 2016 as they had done from 1982 to 1999. He showed considerable skepticism about the ability of

the New Economy to continue generating fabulous returns for investors, and pointed to the examples of cars and the aviation industry to explain why. These industries, he noted, had changed the economic, business and social landscape of the 20th century, yet for investors they had, overall, been a huge disappointment. During the century, more than 2,000 companies had been formed in America to make cars; by the 1990s three were left, “themselves no lollapaloozas for investors.”

The case of aviation is even more cautionary. Between 1919 and 1939, America had 300 aircraft makers, of which only a handful have

survived. Between 1980 and 1999, 129 American airlines filed for bankruptcy. By 1992, Buffett said, the cumulative profit of American airlines for the entire century was “zero. Absolutely zero.... I mean, Karl Marx couldn’t have done as much damage to capitalists as Orville Wright did.” Buffett went on to conclude that “the key to investing is not assessing how much an industry is going to affect society, or how much it will grow, but rather determining the competitive advantage of any given company and, above all, the durability of that advantage. The products or services that have wide, sustainable moats around them are the ones that deliver rewards to investors.”

It is quite possible, in other words, not only for Asian Internet stocks (like those elsewhere) to be in a big bubble whose bursting will leave only a few very lucky investors unscathed by the flying shrapnel, but also – to turn Buffett’s syllogism on its head – for the Internet to have deep and wide-ranging effects on almost everything. Especially in Asia.

NODES AND NETS

Three months before Richard Li’s party, and a seeming world away, Jerry Yang was sitting in a luxury hotel lounge in Shanghai quietly telling me about the Internet over coffee. Yang, who co-founded Yahoo in 1995 with David Filo, then a fellow graduate student at Stanford, was 30 when I met him in Shanghai, and had a net worth of \$3 billion to \$4 billion, depending on Yahoo’s share price from one day to the next. His interest was not that of most American investors who had become obsessed with the Internet, and who thought about where share prices were going in the next month or minute, but rather in what was going to happen over “the next couple of decades,” during which the Internet would continue to increase people’s productivity

and efficiency.

Yang’s view of the power of the Internet begins with a well-known idea about increasing returns in a networked system. The value of a network increases with the number of people using it. If you are the only one in the world with a telephone, it is a useless instrument. If one other person gets a phone, yours suddenly becomes worth something; the more people who get one, the more you get out of the network. Unlike the case in many economic activities – making steel, for instance – there never comes a point when the addition of new capacity adds no extra value at all.

This model of an information economy is very different from what Yang called the “client stuff” of the personal computer era – when a single node operated more or less on its own, with information running vertically between it and an authority above. The horizontal and integrated character of the Internet arose from its origins. Created in the late 1960s by the United States Department of Defense (and sure to be remembered as one of that institution’s greatest, albeit accidental, contributions to human welfare), DARPA-NET was designed as a national security communications infrastructure that would keep working even after a nuclear attack.

Normal communications systems, then based on centrally controlled networks with rigidly specified pathways, certainly could not cope: an attack that knocked out a crucial part or two would knock out everything. So the creators of DARPA-NET made their network completely decentralized – the rules built into the system would allow any part of it to make decisions on its own about how traffic would be routed. And it was also organic: like a neural network in the brain, if some parts were damaged or busy, new links would automatically be made to route signals

through pathways that were intact.

As its military origins faded and it evolved first into a data communications network for academics in the 1980s and then into commercial uses in the 1990s, what came to be known as the Internet preserved its decentralized and organic character. One consequence, as Yang pointed out, is a fluidity of roles in the marketplace; each person in the network can move rapidly between being a producer and being a consumer. Another, often-remarked-upon result is the speedup of information transfers and thus the growing disutility of hierarchical forms of organization. Centralized decision making just takes too long now. The rabid destruction of the role of the middleman is obvious from the fact that the average cost of an online transaction is about one-tenth of the offline cost. With savings of this order, it is inevitable that most transactions will eventually migrate to the Internet.

Paradox after paradox unfolds from such changes. One of the most arresting is going to be the death, or at least the radical transformation, of copyrights and patents. At first glance, it would seem that protection of intellectual property ought to come even more into its own, because so much more wealth will be created through ideas. Yet the opposite will probably happen: it will become increasingly difficult to establish or to enforce intellectual-property rights. This is partly because ideas can be spread more easily and quickly on the Internet and are less subject to being policed. Internet time does not just shorten product cycles, it also reduces the durability of an innovation.

Not everyone in the Internet world sees things this way – for instance, Amazon.com took to the American courts in 1999 to enforce patents on various aspects of its Web site – but Jerry Yang does. He said Yahoo had made a decision not to try to use copyright or

patents as a tool to gain competitive advantage “because they are harder and harder to prove and defend”; his view was that, in the new world, trademarks were going to prove more important than copyrights.

Again, this does not seem obvious. After all, the low entry costs of the Internet should level the playing field for newcomers. Yet the same shifts that are reducing the usefulness of patents are increasing the influence of brands, which is why American Internet companies (Yahoo included) have been spending fortunes on brand-building. Brands matter so much on the Internet because they are the best way of ensuring online consumers, who have few resources for verifying anything, that they can trust what they are buying.

Another big paradox lies in what Yang described as the local character of the Internet. Because it can provide nearly instantaneous communication, the Internet might seem a force for homogenization. Hardware and software (not to mention Disneyland and movies) are global, the same everywhere and dominated by powerful American companies. Some firms are betting that this will still be the case, at least in a single market like the United States. The logic of the merger between AOL and Time Warner depends crucially on the idea that size and financial clout will shape the converging communications, media and Internet businesses.

Yang looked at it differently. Content for the Internet, he said, will mostly be generated locally. The Internet allows for what might be described as mass customization; because costs are so low and speed is so high, it is possible to profit by creating something for a very precisely defined audience. For example, China’s movie theaters, Yang noted, will probably still show mostly American films, because those pictures have such sophisticated production and distribution systems behind

them. But it will also be possible for an aspiring Chinese director to shoot an Internet movie on a shoestring in Beijing, and then show it online throughout China, whether its audience is watching on a PC or on a TV equipped with a set-top Internet receiver.

Asia is better placed than almost any other region to profit from the spread of the Internet over the next decade. This is so partly because of what Asia has been good at: the manufacture and sale of export-oriented goods. The American experience has shown that business-to-business commerce is transformed first, and quickest, by the movement of transactions to the Internet. Unlike the case with business-to-consumer e-commerce, transactions between businesses tend to be, well, more businesslike: both parties know a lot about what they are doing, the transactions are larger and the benefits of cost savings and speed hence greater, and the usefulness of middlemen is low.

And however slow off the mark Asia has generally been in adapting to the Internet, big business users have been quick to recognize its potential. By 1997, Evergreen Marine, a Taiwanese company that runs one of the world's biggest seaborne cargo operations, had a Web site for two years that, in the words of one analyst, allowed "a customer in Europe wishing to ship U.S.-made components to his factory in China for manufacture and re-export to South America to identify the type of container available to him, the ships plying the necessary routes, the length of time for sea transportation, and track each shipment's location and movement through every port of call." How much value this sort of thing will add to the output of the region is anybody's guess, but it would be surprising if it were not immense.

Paradoxically (here we go again), Asia will also be well-placed to profit from the Internet

because of what it has been bad at: services and distribution. With the exception of Hong Kong and Singapore, every place in Asia has followed Japan's lead and emphasized export-oriented manufacturing while making distribution and service trades a sort of quasi-welfare system serving as the dumping ground for the unproductive. With a tangle of regulatory restrictions, from Japan's decades-old (though now mostly rescinded) tight controls on shop size to China's outright ban on foreign participation in distribution, Asia managed to create one of the world's least-productive service sectors. Markets were fragmented, choice was limited and prices were high by world standards.

Yet from telecoms to wholesale and retail distribution, that situation has begun changing as technology, competition, deregulation and (in China's case) entry into the World Trade Organization are demolishing the old barriers. It is hard to overestimate the good that will probably come of this. Before the Internet revolution started, America had (and still has) the world's most efficient service sector; even so, the Internet has already wrought an appreciable improvement in efficiency there. Imagine, then, what a boost to Asian productivity and economic growth the Internet will give if it is allowed the scope to work its magic.

The most significant result of all this will be to force Asian companies to organize themselves and behave in ways that raise their returns on equity. The erosion of pricing power might pinch profits, but the transparency and freer information flows brought about by the Internet will accelerate the process by which providers of finance differentiate among Asian companies, increasing the flow of money to the more efficient and squeezing it to those who fail to perform. In the past, Yang notes, "in Socialist countries

like China or France, the lowest common denominator [the urge to protect the losers] drove every decision." Because the imperatives of commerce are becoming so strong, that will have to change.

One of the most telling market judgments of late 1999 confirmed all this. It became apparent in South Korea as summer drew to a close that Daewoo, the second-biggest *chaebol* and one of the most inefficient, in effect was bankrupt, with debts amounting to at least \$70 billion, much of it held by the country's investment trust companies. In the past, the very thought of one of the biggest conglomerates going bust would have devastated the Korea Stock Exchange. Instead, once it became clear the government would protect the liquidity of the investment trust companies, and not allow a systemic financial crisis to develop, the market completely shrugged off the symbolic death of the old Korea Inc.

Hardly any corner of Asia is likely to remain untouched by the spread of the Internet. Projecting the number of Internet users is an inexact science, but conservative guesses are that by 2003 there will be 60 million in Japan, 35 million in China, 15 million in Korea, 10 million in Taiwan and another 15 million elsewhere in Asia – some 135 million in all, compared with 100 million in America in 1999. Already in Korea by the end of 1999, more than 40 percent of stock market turnover by value, and more than that by volume, was accounted for by online trading.

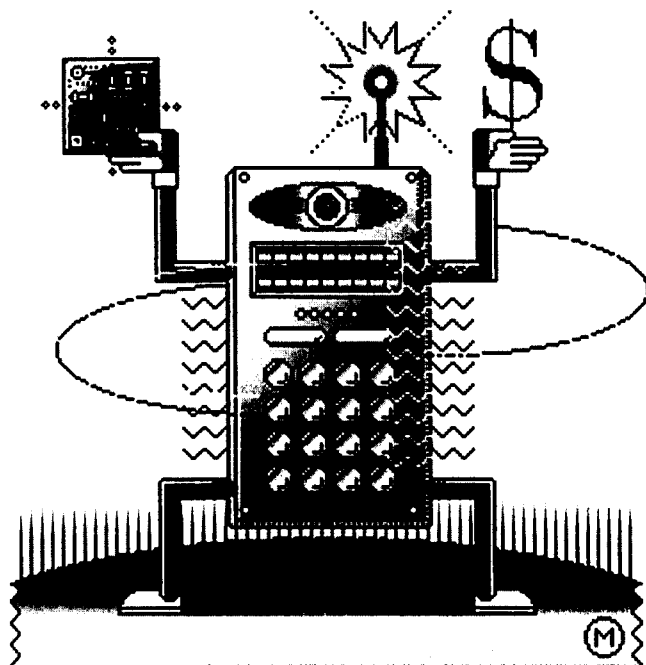
As the Internet spreads throughout Asia, the star performers will be found in North-east Asia – Korea, China and greater China (Taiwan and Hong Kong) with Southeast Asia (conspicuously save for Singapore) playing a modest supporting role. Yet the two places where the impact will be the strongest make quite an odd couple: rich, orderly Japan and poor, chaotic India.

LAND OF THE RISING NET

Always before, when I visited Japan on business, I would have a few meetings where the people were interesting or innovative, but in most of the big companies I called on, the formality and tedium of my interlocutors almost put me to sleep. In late 1999, I spent a week in Tokyo visiting only Internet companies. The difference was staggering. Japan's Internet firms are full of outsiders, mostly very young (the staffs' average age tends to be in the mid-20s) and potentially rich (share options are almost universal). The Internet entrepreneurs have immense contempt for the views of their business and government elders about how things should be run. The feeling is mutual since, as one old-timer put it after a non-nonsense speech by one Internet founder at the ultra-respectable business association Keidanren in Tokyo, the Establishment finds the upstarts "so rude." Yet the potential for the Internet in Japan, in terms both of the returns the industry can earn and its overall impact on the economy, is probably the highest in the world. The reason is simple: Japan is the rich world's most middleman-laden economy, and if there is anything the Internet is great at, it's killing off middlemen.

The upstarts have the financial wherewithal to carry out this revolution. The Nikkei index of the Tokyo Stock Exchange rose a respectable but not stunning 52 percent in dollar terms in 1999. As in America, though, all of the action came in high-tech stocks, which quadrupled their share of the market's capitalization. The Tokyo exchange's second section, which lists younger and smaller companies, was up 145 percent, and Jasdaq, the over-the-counter market, rose almost 250 percent.

With specific stocks, the picture became starker. Whereas the shares of construction and utilities firms fell in 1999, and those of



insurance, real estate, and iron and steel companies barely rose, Japan's big four Internet stocks outperformed the shares of all but a handful of Silicon Valley firms. Stock in NTT DoCoMo, which has half the country's mobile phone market and is leading the charge into mobile Internet services, went up by more than 300 percent in 1999, raising the firm's market capitalization to some \$340 billion. Softbank (by early 2000 Japan's fifth biggest company by market cap) was up more than 1,250 percent, Hikari Tsushin (a four-year-old mobile phone and Internet investment firm that by early 2000 was bigger than Honda or Matsushita) was up almost 2,900 percent. Yahoo Japan was up more than 4,200 percent, presumably the steepest rise in history for any serious company anywhere, giving it a share price of \$1 million in early 2000 and a P/E ratio of more than 1,000.

To some extent, of course, Japan was simply sharing in worldwide Internet mania, and by mid-2000 Japan's Internet stocks had been

slaughtered even more comprehensively than America's had in their springtime bloodbath. Softbank's shares were off by 70 percent and at one point Hikari Tsushin's shares were down 98 percent from their peak. Even so, the long-term impact of the price declines may be less pronounced than the raw figures make it sound. Unlike their American counterparts, many Japanese Internet firms are highly profitable and the earlier stock market gains were driven in part by the imminent removal of obstacles to Internet growth posed by Japan's telecom and financial systems.

The telecom reforms, partially deregulating the Japanese telephone monopoly and opening it to competition, were the bedrock, but new sources of finance were also essential. Japan's stodgy banks would never have backed the young entrepreneurs building the Internet there, but they were simply bypassed. Billions in private equity capital have been mobilized for Internet investments by Japanese firms like Softbank, Hikari Tsushin

and Trans Cosmos. Foreign money began to pour into Japan as well. Taiwan's Hambrecht & Quist (Asia) started investing in Japan, and J.H. Whitney & Co., the leading American private-equity firm in Japanese Internet investment, had already put in \$120 million by the end of 1999.

Once a company is beyond the startup stage, moreover, equity financing is increasingly easy to come by. In addition to Jasdac, fast-growth firms can turn for nurture to a Tokyo Stock Exchange section coyly called Mothers (sort of standing for Market of the High Growth and Emerging Stocks). And Nasdaq Japan, a joint venture between the American exchange and Softbank, is now up and running.

To see what might happen, take banking, which by global standards has been one of Japan's most pathetic industries. Not only are outsiders like Sony and Ito-Yokado, a retail chain that is the parent of Seven Eleven Japan, getting into the finance business and threatening to shake it up partly by providing Internet services, but several banks – both regional and national – are setting up online services of their own. Sakura Bank founded a new company called Japan Net Bank that was due to begin operations in the summer of 2000. It is bringing in strategic equity partners such as Fujitsu, which runs Nifty, the biggest fixed-line Internet service provider, with 3.5 million subscribers, Nippon Life, Tepco, and Mitsui and Company, one of the biggest trading houses.

Transactions over the Internet will cost 23 percent as much as those processed by humans at teller windows and 10 percent as much as those handled over the phone. Collecting deposits is also cheaper. Sakura expects Japan Net Bank to have about \$10 billion in deposits by 2003, which would make it the size of a second-tier local bank. The con-

ventional version of such a bank, however, would have perhaps 50 branches and a staff of 2,000 to 3,000; Japan Net Bank will have no branches and a staff of 100, some of them working part time.

Spread across the whole economy, such improvements will make a huge difference. In a joint study with Japan's Ministry of International Trade and Industry (MITI), the Tokyo office of McKinsey & Co. estimated that the Internet would produce cost savings in Japanese industry of about \$600 billion a year every year from 2003 to 2008, an amount equal each year to 13 percent of Japan's GDP in 1995 (which was not much smaller than its GDP in 1999). The biggest gains will come in domestic manufacturing, professional services like health care, and in retailing and other distribution trades; the smallest (no surprise) in already-efficient export-oriented manufacturing.

As in America, business-to-business e-commerce will financially dominate Japan's Internet development in the early years. B2B in Japan was worth a modest \$110 billion in 1999, a figure Morgan Stanley Dean Witter expects to rise to \$650 billion to \$700 billion in 2003. MITI predicts that these B2B transactions will spread rapidly from the car and electronics industries to businesses like food processing. As a byproduct of the improved efficiency, the growth of B2B should bring, it will radically transform the country's industrial system. The trading companies that have long dominated Japan's commerce as the region's great middlemen are finding their traditional position undercut – which is one reason why Mitsui has been branching out into various Internet joint ventures so urgently.

More significant, the massive rise of B2B is going to cripple the customary relationship-based and cross-ownership-based methods of doing business. The transparency and cost-

consciousness of Internet transactions will break the back of *keiretsu*- (family company) centered procurement, pricing and loyalty.

By the numbers, business-to-consumer e-commerce is a minor appendix to B2B. It was worth less than \$2 billion in 1999 (2 percent of B2B), and MITI projects it rising fast but to a still-modest \$30 billion in 2003. But the raw numbers may be misleading. Retail trading and distribution in Japan has been at least as distorted as the business-to-business market. The Internet promises to force the pace of restructuring in retail distribution, helping to boost domestic consumption in a country where it has been chronically weak by international standards.

The fixed-line (or PC-based) consumer Internet market has a familiar look. Yahoo Japan, 51 percent owned by Softbank and 34 percent by America's Yahoo, dominates the portal business, with half the 18 million customers in Japan who used the Internet in 1999. Masahiro Inoue, a former Softbank executive who is Yahoo Japan's president, says that the firm simply copied Yahoo America's business strategy and even its Web site design. He still finds that the American model works just fine in Japan, though some tweaks are needed because of the wider variety of access devices there.

One difference between the American and Japanese cousins is that, while Yahoo itself is modestly profitable, Yahoo Japan is extremely profitable. In the first half of the 1999 fiscal year, Yahoo Japan had operating income of almost 40 percent on sales of about \$20 million, and a post-tax profit margin of 20 percent. Online advertising accounts for 85 percent of Yahoo Japan's revenues.

With fixed-line telecom charges and PC costs coming down, the use of PCs will expand, but they are never likely to bulk as large on Japan's Internet scene as they do on

America's. For a lot of reasons, the Japanese have always warmed more to consumer electronic gadgets, and this heritage is leading Japan to a somewhat different model of Internet use. In Japan, the general-purpose PC will probably yield pride of place to devices that do only one or two things and are totally reliant for their power on the network (no wonder Oracle's Gatesophobic leader, Larry Ellison, has a Japanese motif to his Silicon Valley house). These appliances run the gamut from car-navigation systems to palm-held devices to toys like Sony's PlayStation 2. This may sound like a blueprint for chaos, but it probably isn't. Toru Arakawa, a bespectacled engineer who runs a Tokyo software firm called Access, says his ambition is to be "the Microsoft of the non-PC world." His NetFront software, which is designed to give Internet access to appliances running on any operating system, already has 80 percent of the Internet browser appliance market in Japan.

The appliance that will matter most, and not just in Japan, is the mobile phone. For now, this is a mere curiosity in America, where the broadband future of the Internet seems defined almost in its entirety by fixed-line competition between cable and telephone providers (with a dash of satellite access added for spice). It is different in Europe, and especially in Asia. Mobile phone penetration rates in Japan, at 50 percent, are almost twice those in America, and mobile broadband services are not only just around the corner but make commercial sense – particularly for B2C e-commerce. Arguably, the two Japanese companies that will count the most as the mobile Internet evolves are Hikari Tsushin and NTT DoCoMo.

DoCoMo is a huge company, with the world's biggest mobile phone subscriber base in any one country (more than 30 million),

1999 revenues of some \$36 billion, and net income of more than \$3 billion. In February 1999 it began offering a mobile phone Internet service called i-mode, which from the start enjoyed phenomenal growth and celebrated its first anniversary with 5 million subscribers. Astonishingly, DoCoMo may overtake America Online within the next couple of years as the world's biggest Internet service provider, with all its services coming through mobile devices.

At first, the most popular use of i-mode was to download daily horoscopes. But that did not blunt i-mode's appeal, in part because it already had an important advantage over other forms of Internet access: the user is continuously hooked up to the Internet, so there is no need to dial an Internet service provider to go online. Moreover, advances are coming so quickly that demand seems sure to accelerate. In the spring of 2001, so-called third-generation broadband services, offering download speeds of 384 kilobits per second, will become available. That access is eight times faster than millions of American PC users now enjoy, and by 2003 Japanese mobile phones will be capable of operating at download speeds of 2 megabits per second – fast enough to put color video clips on mobile phone screens.

All these developments will stoke a boom in demand. Nobody is going to watch a movie on a mobile phone, but a lot of other Internet uses will be just as convenient on the move, or more so. Neighborhood guides to shops, restaurants and movies (with preview clips) will be hard to beat, and various kinds of purchases – say, spur of the moment or previously intended but forgotten ones – will more likely be made over mobile phones than via any other devices. In 2000, Japan's biggest mobile Internet content provider, Mobile-phone Communications International, run

by (who else?) a 34-year-old, offered 200 services, ranging from auctions to racing results, used mostly by people under 30.

For those with somewhat more mature tastes, mobile phones are also well-suited for some financial transactions, such as share trading, where speed is an advantage. Several banks have been in talks with DoCoMo about mobile banking. Faster to the punch than most, Sakura Bank had 125,000 i-mode clients by March 1999. And that is just in Japan: DoCoMo is already making alliances to extend the i-mode formula to the rest of Asia and Europe.

Whether Japan is or is not positioning itself to bestride a great new global industry, however, is less significant than what the Internet is doing to Japanese business and the Japanese economy. By undermining the cozy relationships and pro-manufacturing bias of the old Japan Inc., the Internet promises to do more than any other single trend to force the wholesale restructuring of Japanese industry. And the whole world, having grown too comfortably accustomed to the sorry state of the place during the 1990s, should realize that a restructured Japan is going to be an immensely powerful competitor in all sorts of businesses, both old and new. If you thought Japan in the 1980s was mighty, wait 'til you see the post-Internet version.

ELEPHANT.COM

And now for something entirely different. Of the world's eight most populous countries, India is the poorest – more wretched even than Pakistan or post-crisis Indonesia. It is fairly easy to see how Japan, with its industrial sophistication and wealth of educated people, could absorb the Internet and profit mightily from it. But India? The country's billion people have only about 60 million TVs, 4 million PCs, a 2 percent telephone penetra-

tion rate and, as the new century opened, only 500,000 Internet connections. It has nothing like China's rates of literacy, relatively well-shared prosperity and broad-based, export-attuned economy. Yet it is precisely "socialist" India's appalling inequalities and prior insulation from the outside world that have created the fodder for an Internet revolution there – one that might benefit not just the super-educated engineers who are driving it, but the whole economy.

Compared to India's first 40 years of independence – when economic policy was long on leftist and anticolonial development theory but short on common sense – India had a great decade in the 1990s. During the previous two generations, it relied on a systematically imposed isolation from global economic currents and a pointillistically detailed edifice of government regulation (and often ownership) of the domestic economy that together did more harm to its people's prospects than did any other major postwar regime except the Soviet Union's.

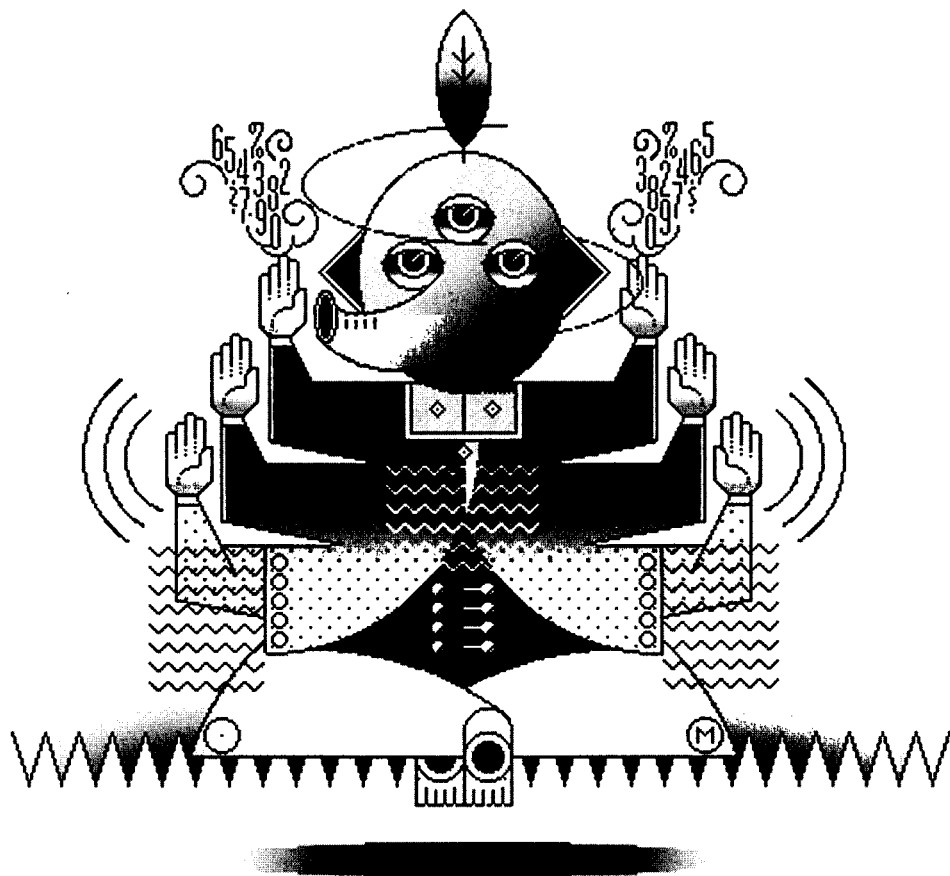
In the accurate summing up by the American writer P. J. O'Rourke, from 1947 to 1991, India was "the smartest country in the stupidest way." It paid the price with 40 years of economic growth that kept only marginally ahead of the growth of the population, leading to real incomes doubling only once during a period when in many parts of East Asia they were octupling. By every measure of material welfare, China did better by its citizens than formally democratic India.

This shame began to be rectified after a balance-of-payments crisis – foreign-exchange reserves had basically run out – brought a pro-reform government under IMF tutelage to power in 1991. In the nine years that followed, successive governments made fitful but cumulative progress toward dismantling the "license raj" of industrial reg-

ulation that had so thickly swathed Indian industry in red tape that companies could not make new and improved products without getting a bureaucrat's approval. Similarly, though more tortuously, barriers to imports – especially of hitherto banned consumer goods – and to foreign direct investment were lowered to the point where trade had crept up to almost 20 percent of GDP in 1999 and foreign direct investment to a projected \$3 billion in 2000. By East Asian standards, these figures are still shockingly low (for the whole of the 1990s, China's foreign direct investment ran at more than 1,000 times India's level) but by earlier standards India had indeed opened up. It had also begun reaping the rewards, with annual GDP growth in the range of 6 percent to 7 percent, compared with 4 percent from 1965 to 1990.

Because of its isolation and its being at a different stage in its economic cycle, India was largely untouched by the East Asian financial crisis of 1997-98. And in the autumn of 1999, a welcome point of no return in the progress of reform seemed to have been passed. In the general election the Hindu nationalist Bharatiya Janata Party won another term over the demoralized main opposition Congress Party, which had ruled India with only brief breaks from independence until 1996. More significantly, after years of zigzagging, both the majority and the opposition had reached a consensus that continued reform was inevitable. An insurance-liberalization law (including permission for foreign firms to take minority stakes in Indian insurers), which would have been unthinkable a few years earlier, was passed without much fuss in late 1999. A speedup in privatization followed in 2000.

By East Asian standards, this was too little and much too late. But the Internet promises to push the country down this path a lot



faster than anyone would have dreamed possible a few years ago. If, in general, the Internet is a technology that – like electricity, cars, telephones and airplanes – transforms and improves all businesses, in India's rare case it has the potential to work this broad transforming effect across an entire society and economy.

Like Taiwan, India has succeeded both in building an internationally competitive high-tech industry and in forging close ties with Silicon Valley. In a way, however, this being the early years of the Internet era, India has an advantage over even Taiwan: India's strength is in software rather than hardware.

The origin of the industry can be found in India's exceptionally deep pool of scientific and engineering talent. Some 40 percent of Indians are still illiterate, but those at the top can take advantage of some of the world's best

opportunities for technological education. In 1998, India produced 65,000 engineers with college degrees or advanced degrees, contributing to a pool of engineering manpower that in size is now second only to America's.

Nor is it just a matter of quantity. Some Indian universities – most conspicuously, the several campuses of the Indian Institutes of Technology and the Indian Institutes of Science – are just as good as their counterparts in America. Partly because India's misguided economic policies left the country with a narrow manufacturing base and partly because the English-language skills of educated Indians are very high, India's engineers gravitated to software and computer services rather than to hardware. By the end of the 1990s, India had about 1,000 software companies employing some 280,000 engineers.

Software companies are concentrated in

the South and particularly in three cities: Bangalore, Hyderabad and Madras. They sprang up there in part because of good engineering schools in the vicinity (and in Hyderabad's case, defense-based research facilities). But, also, business enterprise found a more favorable climate far from the overweening bureaucrats of Delhi and the political shenanigans in the financial capital of Mumbai (Bombay). The attitudes of state governments came to matter even more as the 1990s wore on, and the loosening of central control allowed the states more freedom to compete with each other for investment through deregulation and other pro-business policies.

Chandrababu Naidu, the chief minister of Andhra Pradesh state, of which Hyderabad is the capital, has been the country's most outspoken pro-reform politician. He openly espouses East Asian ambitions and methods, aiming to eliminate poverty in his state through 10 percent GDP growth a year for the next 20 years. (It grew 11 percent in the fiscal year ending in March 1999.) To build up infrastructure, whose inadequacy has always been a crippling handicap for business in India, he has raised water tariffs, privatized the ports and courted private investment in utilities. He promises a first class international airport by 2003 and fiber optic links for every village in the state by 2005. After the election Naidu began pressing the central government to pass more taxing and spending powers to the states and to let them borrow without restriction on international capital markets.

In the case of the software industry, even national policies have encouraged growth. In 1991, the central government set up an independent agency with the authority to establish separate zones called Software Technology Parks, of which 13 were up and running as the

century turned and more were under construction. These industrial parks are intended to provide a business-friendly environment in which both Indian and foreign firms can operate with as few as possible of the myriad frustrations that doing business anywhere else in India entails. The communications infrastructure is first-rate (the software technology parks were allowed to use their own satellite networks to bypass VSNL, the government-owned international telecoms carrier, even before its monopoly was abolished late in 2000), imports are duty free, corporate taxes are waived for 10 years, and red tape involving customs and other regulations is in theory minimized by a "single window" approval mechanism.

Ideally, of course, a nationwide program of red-tape burning and lower taxes for all industries would be preferable, but this ignores the reality of the reform process in large, poor countries. It also underestimates how much good can be done by a targeted opening that allows practical experimentation. Although industry specific, the technology parks are strongly reminiscent of the special economic zones China set up in the late 1970s and early 1980s. These turned out to be superbly successful tools for introducing the basics of capitalism into a society where such ideas had long been suppressed. More important still, the zones offered a way of dipping China into the currents of the wider world – an initiation that reflexively xenophobic India needs every bit as much as China did.

In addition to the advantages conferred by the software technology parks and a large number of well-educated, English-speaking software engineers, a simple equation of economic gravity explains why the Indian software industry boomed in the 1990s. As the 1990s ended, a software engineer in India made two to three times what a similarly

skilled person would make in other lines of work in India – so everybody wanted to write software. But that person would earn only a sixth to an eighth as much as someone comparable would be paid in America – so American companies had a powerful incentive to hire them.

The pay discrepancy ran all the way up the management chain – and unlike in China, there actually was a management chain. India has a relative abundance of high-level, English-speaking managers who are pretty much up to international snuff. A former head of Hindustan Lever said at a conference in Mumbai in 1999 that, whereas until a few years ago Unilever in China had 80 senior expatriate managers costing the company on average \$400,000 a year, Hindustan Lever has had an Indian CEO since 1961 and now has almost no expat managers at all. Multinationals setting up in the software technology parks have found they need almost no high-level expatriate managers.

Once proprietary satellite communications were allowed and their price fell during the 1990s, there was little reason for an American software firm not to set up shop in a technology park. Hewlett Packard, Novell, Texas Instruments and Oracle have significant operations in Bangalore, and in Hyderabad, Microsoft and GE Capital have nestled in.

Unsurprisingly, India had to start on the bottom rung of the global software business. Most of the real software export work in the early years (90 percent in 1990) was done onsite in America or Europe through what came to be known as “body-shopping”: teams of engineers were sent for weeks at a time to customer premises to do coding, testing and other low-grade programming work where their ample cost advantage over Americans proved decisive.

As international telecommunications im-

proved and became cheaper, and the competence of the Indian industry rose, the proportions shifted. By 1997 around 40 percent of India's software exports were generated in India itself rather than onsite in the West, and by now more than half are. Much of the industry's super-fast growth in the late 1990s came from a large volume of fairly mundane Y2K debugging work thrown India's way. But the best Indian firms have made a smooth transition to doing more and more e-commerce and other Internet work for customers, both at home and in the West. Satyam, for instance, had for two years relied on Y2K projects for almost 30 percent of its revenues, and they helped fuel an annual doubling of sales. By the summer of 1999, only 5 percent of sales were Y2K related. But Satyam still enjoyed sales growth of 60 percent in the fiscal year that ended in March 2000, almost all of it driven by Internet work such as setting up India's second-largest Internet service provider and selling Internet services to American customers.

India's drive up-market had been substantially helped by its Silicon Valley ties. Professor Anna Lee Saxenian's study of the Valley's immigrant entrepreneurs found that 5 percent of the engineers there in 1990 were Indians (about half as many as were ethnic Chinese from the mainland, Taiwan and Hong Kong), a share that undoubtedly rose sharply during the 1990s, thanks to higher immigration rates. Moreover, Indians have been starting their own Valley companies at an accelerating rate. Saxenian, a professor of regional development at the University of California, reckons that by 1998 almost 800 high-tech firms in Silicon Valley – nearly 7 percent of the total – had an Indian CEO.

There has been relatively little of the proliferation of contacts that has enriched ties between Taiwan and the Valley. But that is

changing. In 1999 the Indian government set up a committee on venture capital to which it appointed several Indians who had made it big in the Valley – among them Kanwal Rekhi, who sold his software firm to Novell for \$200 million; Sabeer Bhatia, who founded Hotmail and later sold it to Microsoft for \$400 million; and Suhas Patil, who founded Cirrus Logic. They have been raising venture capital for investment in India and lobbying the government to remove restrictions on venture capital. In the five years after 1995, on average only \$100 million a year of venture money went into Indian start-ups. The goal is to get that up to \$3 billion a year in short order.

The Indian stock market started putting a lot of daylight between high-tech shares and the rest of the listings during 1999. The main index of the Bombay Stock Exchange went up about 1.5 times, but the computer software index was up more than four times. The wealth effects were predictable; by 1999, three of the five richest men in India were founders of software firms.

However dynamic, these are minuscule pockets of success in a vast and still mostly dilapidated economy. How can they make much difference? In the first place, they are in some important ways a lot bigger and more influential than they look. During most of the 1990s, India's software industry grew at 40 percent to 50 percent a year, about 10 times as fast as the rest of the economy. So by the end of the decade, it was contributing some 20 percent to economic growth, even though it accounted for only 2 percent of GDP. Second, the software-becoming-Internet business has been crucial for plugging India into the outside world. Software, three-fifths of which now goes to America, with another fifth to Europe, is going to be India's most important export business.

Yet it is changes in attitude that will matter

most of all. Of all the handicaps successive Indian governments loaded onto their poor country, none was more crippling than the policy of cutting it off as much as possible from the outside world. The software industry has exactly the opposite philosophy – whether it is in welcoming foreign direct investment or trying to plunge into the global economy itself – and as India's most obviously successful industry its attitude is being noticed by the rest of Indian business.

After decades of resistance, the change of attitude is also soaking in at a political and social level. The Internet may not yet be bringing India the cost savings that it is already producing elsewhere in the world, but it is rescuing something much more significant for India just now: the idea that free commerce will produce much more good for society than government dictates will.

But there is more. When Deng Xiaoping told the Chinese in the 1980s that “to get rich is glorious,” it made people think they were living in a different China. The Indian equivalent is the success of the Southern software entrepreneurs and the proliferation of satellite TV, which have made Indians think the future lies with this new world of possibilities rather than with the old one of stagnation.

An article in *Business Week* in late 1999 on India's young people featured a photo of a 16-year-old girl in rural Uttar Pradesh, a northern state that is one of India's poorest. In the photo, she is smiling broadly and holding a mobile phone. To stimulate phone usage the local mobile phone company lent the handset to the girl, which she rents out to villagers to make their phone calls. She pockets as much as \$8 a day, a fortune by local standards, which she plans to use to attend computer classes. It is the most heartening anecdote to have come out of India in its 50-plus years since independence. 

BY ROBERT A. LEVINE

The truism that the United States is the world's economic leader is, in fact, true in two ways. The American economy has been growing faster than any other in the western world. What's more, American growth has led – literally pulled – most of the other developed economies and some less-developed ones into prosperity. Notably, America's prosperity-driven demand for imports has set off a mini-boom in continental Europe.

The American economy's success in recent years has rightly been attributed to its leadership in what is widely dubbed the information revolution. But that explanation only leads to another question: What made the United States so attractive to high-tech, New Economy industries, compared to technologically advanced Europe?

Was it wise economic policy? The Clinton Administration, the Federal Reserve and even the Congress deserve some credit – but mainly for not getting in the way of a potent technological wave.

Or was it a flexible economic structure? That gets closer to the core, but doesn't explain why the United States economy is so much more flexible than others – why western Europe has been unable to adapt in equivalent ways.

I would argue that the overwhelming reason for the United States lead is American enterprise, and the sources of that advantage lie deep in geography and history – and in the

culture stemming from that history. The Old World may strain to close the enterprise gap, but America's advantage is so fundamental that it is hardly likely to lose the lead soon.

America's strengths do have a downside, though: an inherent vulnerability to income inequality, which creates a litany of social problems Europeans are only too happy to recite. *Schadenfreude* can thus be enjoyed on both sides of the Atlantic. But after one grows weary of feeling superior, real issues intrude. Can Europe win back a share of technological and economic leadership? Can the United States emulate European *égalité* and *fraternité*. And should either try to make such gains at the risk of losing cherished differences?

GROWTH

The great Austrian-American economist Joseph Schumpeter (1883-1950) contended that growth is impelled by innovations introduced by entrepreneurs. These are special words: innovations are not inventions, while an entrepreneur is not just somebody with the keys to the store. Rather, an innovation is the introduction into the working economic

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system of something that makes a difference. It may be an invention in the strict definition, but it may also be a new mode of industrial organization or a change in marketing. To be an innovation it must *do* economically, rather than just *be*. By the same token, an entrepreneur is the individual who takes the risk and gains the profit from innovation. Bill Gates is an entrepreneur. The Xerox executive who complained in a *New York Times* op-ed article that Microsoft is not innovative because it depends on other people's technology is not.

Schumpeter suggested that, beginning with the Industrial Revolution, clusters of innovations have brought about long waves of economic activity. He thought the cycles were on the order of a half century in length, but that is neither certain nor important to his broad insight. A wave begins with a period of strong growth when new technologies or concepts replace the old. Eventually, the new techniques are fully absorbed and the wave turns down. Ordinary business-cycle activity imposed on the growth phase yields relatively mild recessions. But those recessions can be fierce on the down slope of the innovative wave. Think of the Great Depression of the 1930s.

By the time of Schumpeter's death, three long waves had crested and fallen since the Industrial Revolution. The first, at the end of the 18th century and the beginning of the 19th, was associated with the steam engine and the introduction of interchangeable parts in manufacturing. It was followed by the railroad/telegraph revolution in the last half of that century. The third was based on the automobile, the airplane, wireless and movies, with which the 20th century began. World War II marked the beginning of a fourth wave centered on television and other means of mass communication, as well as on new mili-

tary technologies spurred by the cold war.

In a Schumpeterian reading of events, the current rapid growth of the world economy is the upslope of the most recent of the long waves – one based on computer hardware and software and new means of electronic communication; it probably includes bioengineering, too. This wave, like the last two, has been led by the United States. From 1995 to 1999, the United States GDP grew at an annual average of more than 4 percent, while growth in Western Europe was roughly half that.

The immediate cause of the gap is clear: the United States has invested a lot in the new technologies. In 1999, more than one-third of total investment (excluding housing) in the United States was in information-processing equipment and software, and almost half the increase in investment from 1989 to 1999 was in this sector. Technological research and development in the United States has exceeded that of France, Germany and the United Kingdom combined; on a per capita basis, it has been twice that of France and Germany.

Why the disparity? The answer lies partly in America's size. Sheer size of the domestic market has provided critical mass to encourage and absorb innovations. But the advantages of scale with respect to Europe are plainly diminishing with the integration of the European capital and goods markets. It is becoming increasingly clear that the more important differences are cultural.

Arguably, the single most important factor in American innovative leadership is the emphasis on ambition over security. For many Americans – particularly the most competent – the hope of getting rich is a more compelling incentive than the fear of becoming poor. Contrast that, for example, to France, where the highest ambition for many at the top levels of education and status (as well as the lower ones) is to become a govern-

ment employee.

Nearly as important are American flexibility and social fluidity. These have several crucial manifestations:

Class Mobility. Poor white men – but increasingly also non-whites and non-males – believe they have a chance of moving up. And, in part, the expectation is self-fulfilling.

Anti-racism. This is certainly not the first characteristic that comes to mind when Europeans, or even Americans, think of the United States. Indeed, European intellectuals believe the United States to be the prototypical racist nation, a bastion of prejudice compared to contemporary Europe. Yet while racism persists on both sides of the Atlantic, the United States has been fighting it – and with a surprising degree of success. The payoff in terms of economic growth comes in the form of a higher return on investments in human capital and a more productive labor force.

Immigration. Of more immediate significance for America's lead in the information revolution is that the United States is a nation of immigrants. True, many Americans (like many Europeans) worry not only about the size of immigration flows, but also about the differences of the new immigrants' ways from those of the dominant culture. Nonetheless, the history of the US is one of new groups changing the existing culture, even as they adapted to it. This differs not only from Germany, where citizenship by "right of blood" is giving way only reluctantly to citizenship based on birth on national soil, but even from France, where immigrants were long welcome so long as they assimilated.

The importance of immigration to American leadership of the economic revolutions of the first part of the 20th century is illustrated by the contributions made by first- and second-generation Jewish immigrants, particularly refugees from Hitlerism. Now, dis-

proportionate numbers of Asian immigrants and their offspring have joined the information revolution.

Higher Education. The average quality of post-secondary education in America may be better or worse than European education – it depends on the measurement criteria. What is certain, however, is that colleges and universities in the United States are far more diverse than those elsewhere. Harvard is at least the equal of any university in the world. Meanwhile, public institutions like the California state universities exemplify a large number of very solid mass market institutions with few analogues in Europe.

The diversity of higher education has three implications for American technological leadership. First, it means that a higher percentage of high school graduates gets some sort of post-secondary school education than in comparably affluent nations. Second, the openness and flexibility of higher education attracts immigrants looking for such opportunity. And third, American higher education provides more job-specific training than do the elite institutions of the Old World.

Public Policy

The policies that have most encouraged growth have been noneconomic.

The Anti-Statist State. America's historical ideology is anti-statist. For a combination of reasons – the origins of the Revolution in protest against the English monarchy, the protections granted in uniting 13 very different colonies, the ongoing influence of the frontier – the United States stressed checks and balances and diffusion of power at a time when European states were becoming increasingly centralized. In the last half of the 19th century, American economic development was subject at a crucial time to little control from the federal government –

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although it did receive a boost in the form of substantial subsidies for infrastructure. This permitted efficient, market-driven growth in contrast to the top-down planned development of the countries of continental Europe.

Defense Dollars. The cold-war defense budget of the United States, decried for decades for dissipating resources into unproductive uses, in retrospect provided a major source of funding for high technology. Defense spending underwrote both the people and the basic science to keep an increasingly high-tech electronic military machine moving forward, in the process creating a seedbed for the civilian technologies of the new economy. The same might have been true in the Soviet Union, except that none of the other conditions for growth were fulfilled.

Economic policies have also encouraged growth in the United States, though typically growth has only been a secondary goal.

Research Policy. The federal government has encouraged research and development in effective ways. The typical sequence leading to technological change looks something like this: basic research in scientific principles and generic technology > applied research into the uses of the technology for actual products and processes > development of the new products and processes > marketing them.

The last three of the four steps define the innovation process: the costs and risks of applied research, development and marketing are incurred by the entrepreneur in hope of profits to be gained. The rewards for the first step, basic research, however, are spread broadly, with only a small portion likely to accrue to the researcher. For that reason, government, representing the economy as a whole, is an appropriate source of funding.

The United States' system fits that model. In 1996, the economy as a whole spent \$30

billion for basic research, \$39 billion for applied research, and \$116 billion for development. The federal government portion of each went in inverse order: 58 percent of basic research, 36 percent of applied, 26 percent of development, and almost nothing for marketing. And much of the government spending in applied research and development, it should be noted, was related to defense.

The Monopoly Game. The irony of the innovation process is that the lure of big profits gained from having at least a temporary monopoly is the primary incentive for innovation. But once their dominance is achieved, monopolists have incentives to constrain further innovation. The American system, put in place at the end of the 19th century, encourages temporary monopoly through patents but uses flexible antitrust laws to deter innovation-stifling control of markets. During the same period, Europe's key industrial nations promoted monopoly; *kartel*, after all, is a German word.

Laissez-Faire. A corollary of America's broad anti-statist ideology is a bias toward limiting the government's role in the economy. The United States has fewer rules about wages, job security and other employment conditions – not to mention less employment in the public sector and lower taxes – than does most of Europe.

Market-oriented European economists attribute higher European unemployment rates to government-induced labor market rigidities. That is a partial truth. Labor market flexibility matters, but probably makes a smaller contribution to economic leadership in the United States than does a related difference: the United States lets its entrepreneurs decide where to innovate, while European states are inclined to tell them. It is difficult to find a precise English equivalent for the French word *dirigisme*.

Higher Ed. Higher education is encouraged by heavy investment from all levels of government. A century and a half ago, the federal government gave land grants to the states to subsidize new universities. And Washington continues to spend significantly on higher ed through research and scholarships.

THE DOWNSIDE TO LEADERSHIP

The costs of the United States lead in the information revolution and world economic growth have been substantial – substantial enough that an argument can be made that the rapid economic growth of the United States has not been worth the price. The major costs – increasing inequality in income and wealth, and problems fostered by that inequality – are more social than economic. That makes them difficult for economists, who are trained to avoid problems with a subjective dimension, to analyze. But it does not follow that the costs are small.

Inequality

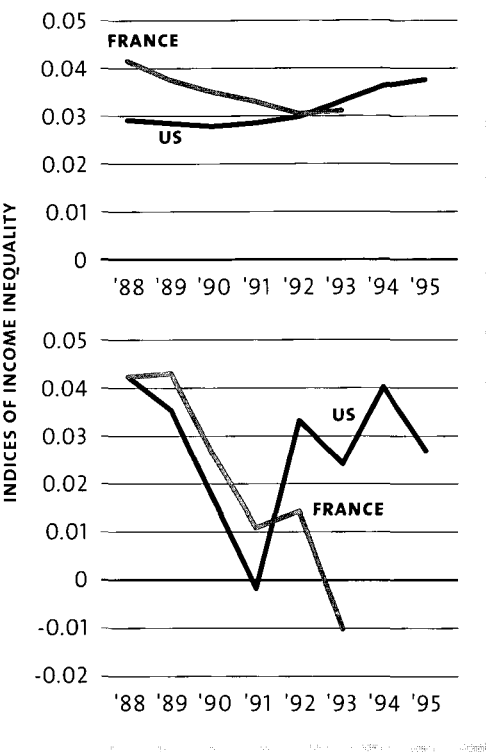
Incomes in the United States are less equal than those in Europe and are becoming even more skewed in a way that suggests a strong connection to recent rapid growth. Reliable data on inequality are difficult to come by, but two charts using data from the United States and France suggest what has been happening in recent years.

The charts, presenting indices of income inequality, show a gradual and continuing income equalization in France through 1993, the last year for which data are available. Income inequality in the United States is level for the beginning of the period, but begins to rise starting in 1993, jumping by almost a quarter through 1995; other data suggest that inequality continued to increase through 1999.

Although causation can never be proven,

the factors that brought about the spurt of growth seem likely to have at least exacerbated the increased inequality: France's GDP growth slowed as inequality decreased, while American GDP accelerated.

PAYING THE PIPER FOR GROWTH



What seems to have happened in the United States is that innovation made entrepreneurs very rich – as it was supposed to. Those who could contribute to the information revolution gained, while those who could not did not. The lot of the latter group was made even worse since, at the same time as the high-tech advantage of the United States grew, the comparative advantage of other countries in low-tech also grew. Jobs not only for less-skilled Americans but also for those skilled in low-tech industries departed across

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the Pacific and the Rio Grande.

The cultural forces that have gone a long way to ensuring American economic leadership have also helped to perpetuate inequality. The weight put on ambition over security, and the fluidity of the American class system – downward as well as upward – mean that less attention is paid to those falling behind than in Europe. Racial progress has been substantial for the more capable members of minorities, but the less capable are stuck in increasingly difficult circumstances. Immigration brings in entrepreneurs, but it also brings in many unskilled workers who compete with native workers for minimum-wage jobs.

Social Problems

The fraying of the safety net for those at the bottom is related both to growing inequality and to conservative politics. The welfare reform begun in the mid-1990s, which have trimmed the rolls beyond most expectations as the economic boom has succeeded beyond most expectations, may yet collapse when the economy turns down. That (nearly inevitable) downturn will simultaneously throw new jobholders out of work and reduce state and local resources to cope with the problems. If the five-year lifetime eligibility for welfare written into the new law ends concurrently for many recipients, the consequences could be catastrophic.

Other problems – violent crime, and the sale and use of illegal drugs, for example – are arguably caused in part by inequality and in part by the frayed net. By the same token, the level of violence may have its origins in some of the same cultural factors that support American entrepreneurship – notably the frontier traditions that encourage individual initiative and put little weight on obedience

to authority. Putting those traditions together with political conservatism has led to the incomparably high proportion of Americans in prison.

POLICY...

...for the United States

The deep cultural basis buttressing the United States' growth advantages carries with it two complementary implications. On the one hand, changes approaching European egalitarianism/*dirigisme*, which might slow down American growth, are unlikely to occur. On the other, plausible policy changes designed to buffer the downside are unlikely to be sufficient to endanger growth.

Within these narrow constraints, the United States can look in several directions to reduce the increased inequality and mend the frayed safety net:

Improve education. The scale of the public investment that would be needed to make a real difference would be extremely large. But a large initiative is still worth trying, if only because the alternatives are grim.

Repair the safety net. Even in boom times, America's shameful problems of homelessness and hunger have arguably gotten worse. When the boom ends – perhaps any minute now – matters could get a lot worse fast. Thought ought to be given now about how to cope with a less-than-full-employment economy.

Adjust macroeconomic policy. Because the consequences of even a mild downturn can cause major problems for those at the bottom, the balance between avoiding inflation and encouraging growth ought to be tilted toward the latter.

Rethink tax policy. Inequality compares the top to the bottom. Increasing high-bracket income tax rates is neither politically realistic nor would it be effective in generating

significant revenue. But removing the income limit on the Social Security payroll tax – the most regressive feature of the tax system – and avoiding such inequality-exacerbating moves as the abolition of the estate tax would pay egalitarian dividends.

...for Europe

No one is contemplating policy changes that transform the Continental economy into a replica of America's, but improvement is possible in three areas: further economic integration to enlarge and deregulate markets, *de-dirigisme* and other structural reform, and immigration reform not only to encourage entrepreneurship but also to offset the consequences of a rapidly aging native population.

What is less possible – and less desirable – is thoroughgoing cultural change. Tony Blair's onetime slogan, "Cool Britannia," which suggested that convergence was on the way, has been mercifully forgotten and never was translatable into French or German. The opposite of "Cool Britannia," however, is Venice, a beautiful museum supported entirely by tourism. Europe is still far from that, but rejection of all change could lead that way.

The proper balance is not for this American to dictate.

CONCLUSION

My findings are in a profound sense conservative. If long-run growth is Schumpeterian, and if culture provides the primary basis for the differences between the United States and Europe, then government can do little to effect fundamental change.

Such thinking, though, is no excuse for fatalism. Europe is unlikely to reduce unemployment to the current 4 percent rate in the United States. But when French and other European unemployment was well above 10 percent several years ago, a number of French

economists estimated that it could be brought down to the 8 percent realm by monetary and other macroeconomic measures; cutting deeper would require structural change.

A combination of the business cycle and some modest structural and macroeconomic measures has subsequently reduced it to below 10 percent. Extension of the modest decreases in labor-market rigidity and the equally modest steps away from central control, both seen as quite radical within France, could continue the drop.

In the United States, the case for radicalism to buffer the downside of rapid growth is even more clear-cut. Yet, given the huge tides of mandated federal spending on Social Security and Medicare on the one side and defense on the other, there is only a pitifully small amount of discretionary spending that could go to repairing the safety net. Any outlays in social programs are unlikely to affect the machinery of growth, if only because the outlays will be modest, that is, if the business cycle and the political stalemate allow discretionary social spending to grow at all.

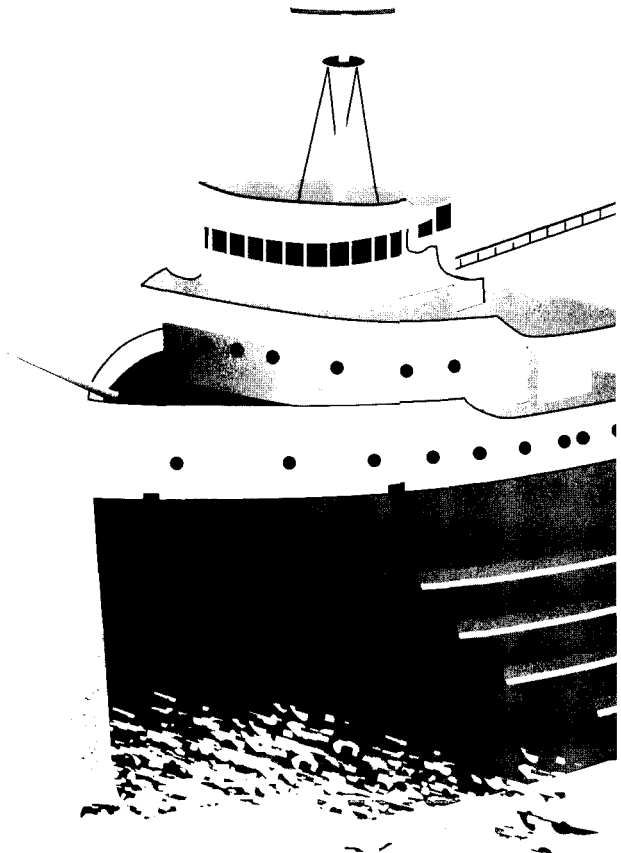
The stalemate – a nearly evenly divided government for at least the next two years – may help with the primary desideratum of "Do No Harm," but it is not likely to do much good either. The business cycle on both sides of the Atlantic, however, may present a real challenge to current conservatism. Even if the cyclical downturn on the upside of a Schumpeterian wave proves as mild as we would expect, the tendency of the European left to hunker down in defense of the welfare state while the right fights the shadow of inflation could throw the current slow improvement into gear-crunching reverse. When the next cyclical drop is imposed on the next Schumpeterian down-slope, no kind of conservatism will do, any more than it did in the Great Depression. 

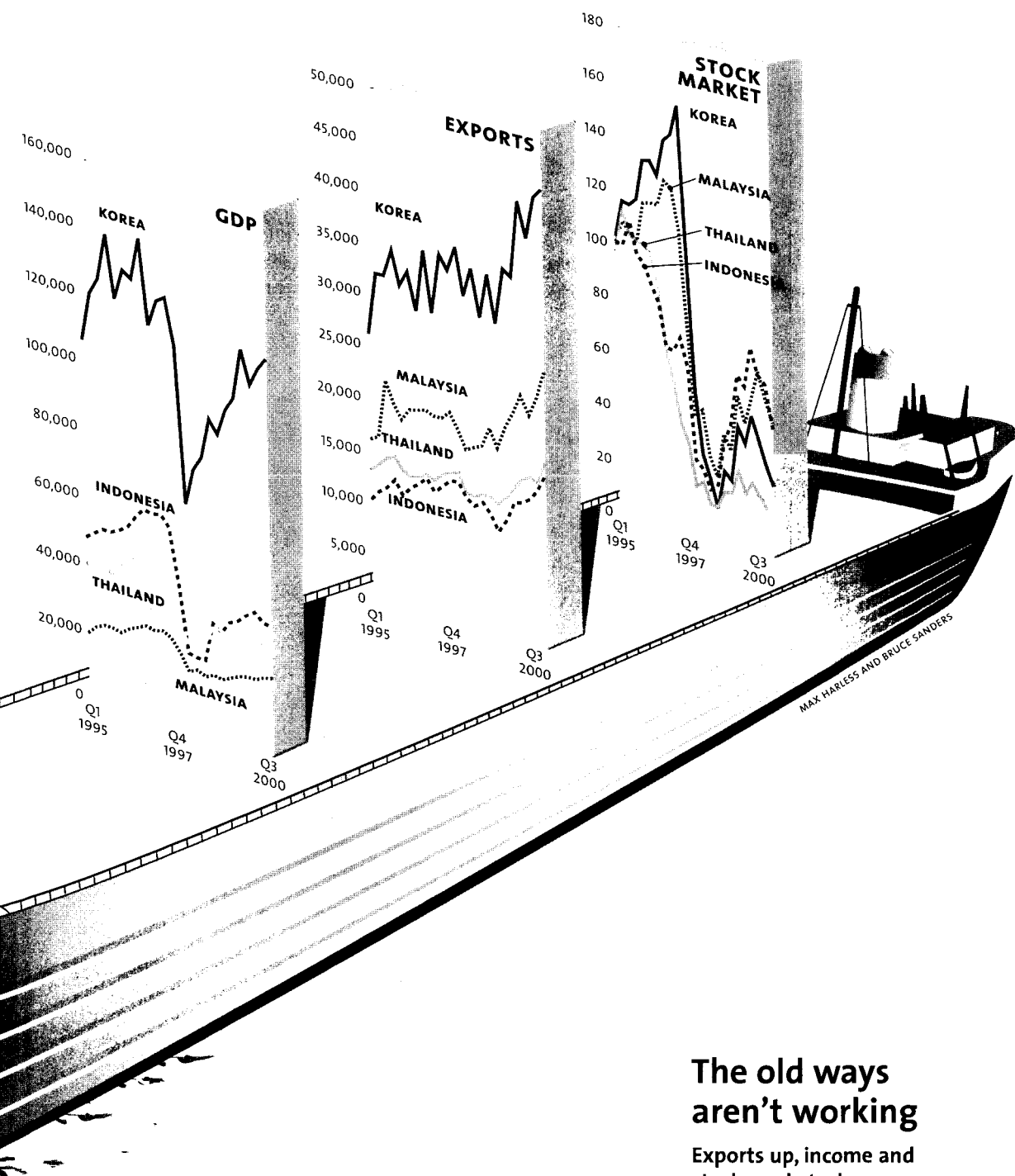
Jim Rohwer paints an optimistic picture of Asia's economic future in *Remade in America*, excerpted on page 65. But the numbers suggest that four emerging Asian economies, which were billed as unstoppable tigers in the early 1990s, have a long way to go just to get back to where they were before the 1997 financial crisis.

South Korea, Indonesia, Malaysia and Thailand have all done what comes naturally – pinning their hopes on an export-led recovery. All have taken advantage of currency depreciation to stay in the export game, with substantial gains in exports measured in dollars. But that hasn't translated into similar gains in economic output or stock market capitalization, which remain far below mid-nineties peaks.

One interpretation is that the recovery is simply harder than most observers expected – and that much of the positive change is still below our radar screens. A more pessimistic view is that the basic mechanism of growth in Asia is broken and policymakers lack the means and/or the will to fix it. Capital markets remain primitive and export industries still run the show, the pessimists say. The good folks who brought you crony capitalism just aren't about to sacrifice their wealth and perquisites to bring them into the modern economic era.

— Thanks to the Milken Institute's
Capital Studies Group





The old ways aren't working

Exports up, income and
stock markets down

NEW INITIATIVES FOR EMERGING DOMESTIC MARKETS

The Milken Institute has played an important role in two government initiatives aimed at lowering barriers to capital for women and minorities.

New Markets Initiative. Passed on the final day of the 106th Congress, the New Markets Initiative will encourage private-sector equity investment in low- and moderate-income communities. Among its provisions, the legislation would create New Markets Venture Capital Firms, which provide equity investments and operational assistance to small businesses, and offer \$7 million in funding for BusinessLINC, a network of locally based, private-public partnerships that encourages large businesses to work with and mentor small-business owners in economically distressed communities.

Double Bottom Line. This California initiative directs more than \$12 billion over three years in state resources and investment capital to the state's less-prosperous communities. Among the projects are the California Community Investment Initiative, which channels more funds into community banks and financial institutions, and spurs growth in the state's new markets; the California Initiative, a \$500 million equity fund from CalPERS – one of the country's largest public pension funds – that will be used to invest in at-risk communities; and the California 21st Century Fund, a partnership with foundations and

socially motivated source of capital, lending to hard-to-finance projects in minority communities.

For more information about the Institute's Emerging Domestic Markets research, contact Glenn Yago at gyago@milkeninstitute.org.

CALIFORNIA'S ECONOMY STRONG, BUT PROBLEMS COULD HALT GOOD TIMES

California's is well positioned to capitalize on the opportunities offered by the New Economy. But the good times could be fleeting unless the state solves serious problems, including substandard schools and a lack of affordable housing. That mixed picture of the state's future was painted before more than 400 attendees at the Milken Institute's 2000 California State of the State Conference last fall in Los Angeles.

While the conference's tone was optimistic, many speakers sounded warnings during the daylong event. The conference at the

Jerry Brown, Frank Baxter and Philip Angelides



STILL PRODUCTIONS

New Publications

- *Political Virtue and Economic Leadership: A Southeast Asian Paradox*, by Hilton Root.
- *Do Strong Governments Produce Strong Economies?* by Hilton Root.
- *High Yield Financing and Efficiency-Enhancing Takeovers*, by Susanne Trimbath.
- *Tale of Two Decades: Corporate Control in the '80s and '90s*, by Glenn Yago, Mike Bates, Wendy Huang and Robert Noah.
- *2000 California State of the State Briefing Book*, by the Institute's Regional and Demographic Studies group.

Publications can be ordered through the Institute's Web site (www.milkeninstitute.org), or by phone (310-998-2600).

Los Angeles Marriott Downtown drew leaders in finance and business, academia, think tanks, government and the media.

NEW ECONOMY INDEX PUTS MA, CA AND CT ON TOP

Massachusetts, California, Connecticut, Colorado and Washington are the top five states on the Institute's New Economy Index, which ranks each state based upon 12 criteria critical to future high-tech growth – from research and development dollars and the population's percentage of advanced degrees, to the amount of venture capital investment, business starts and IPO proceeds.

"Our index measures the New Economy's critical attributes, which are based on innovation, knowledge and the ability to convert ideas into viable products and services," explained Ross DeVol, Director of Regional and Demographic Studies at the Institute. Rounding out the top 10: Maryland, New Jersey, New York, New Hampshire and New Mexico.

For the complete list, including a breakdown of how individual states (and the District of Columbia) do on each of the 12 measurements, check the Institute's Web site at www.milkeninstitute.org.

GLOBAL CONFERENCE LOOKS AT LATEST ECONOMIC DEVELOPMENTS

The Milken Institute's biggest event of the year – the annual Global Conference – takes place in Los Angeles March 20-21, 2001.

This widely acclaimed event – now the largest of its kind on the West Coast – enables attendees not only to receive valuable insights into the latest economic and financial developments worldwide, but to network with a well-informed and influential audience of representatives from the world's leading corporations and financial institutions. Some 1,500 people are expected to attend.

More than 100 specialists – from corporate CEOs to Nobel Laureates – will share their outlook on the world's most pressing economic issues, and the biggest opportunities and challenges facing investors and public policy officials around the globe.

The 2001 Global Conference allows you to keep up with the latest developments in capital markets, technology, financial innovations and key economic regions around the world – all in two information-packed days of 26 general and concurrent sessions.

For more information, visit www.milkeninstitute.org, or call 310-998-2605. 

BY SUSANNE TRIMBATH

“The economy goes through phases. So do markets. Just when people start thinking they’ll last forever, the phases are ready to change.”

— Michael Milken, *Forbes*, March 16, 1992.

Merger and acquisition activity is under constant scrutiny, and is alternately praised and vilified as an engine of corporate destruction, creative or not. But most studies have not considered the time period – and the general availability of capital – as a relevant variable.

Researchers have identified five distinct periods of high merger and acquisition activity during the past century or so. Each of these periods in American history was unique in its origins and the way it was limited by defensive behavior.

- The first period followed the depression of the late 19th century, and was fueled by economic growth and the development of domestic infrastructure, such as the trans-continental railroad. Targeted firms resisted this corporate control activity fiercely, adopting dual-class recapitalization schema to retain control in proxy contests.
- The second sprouted during the economic boom that followed the First World War and was driven by an abundant supply of investment capital. This time, targeted corporations used the tactic of eliminating cumulative voting as a means of preventing takeovers.

- The third period of high activity, in the late 1960s, appeared to be motivated by a corporate shift toward diversification. The economy was changing and firms adapted by buying into new industries and economic sectors. Targeted corporations resisted through legal maneuvers. Takeover activity in this period was also slowed by government restrictions on the use of convertible stock for financing.
- The fourth period – that of the 1980s – was marked by the restructuring of conglomerates and pressure on all firms to improve their use of resources. It began with the rise of new sources of financing, such as high-yield bonds sold to insurance companies, and ended when those sources were barred by law and regulation.
- The 1990s produced a fifth active period of corporate acquisitions. This time around, there was a trend toward consolidation of market share and the acquisition of technology, with syndicated lending as the primary source of financing.

Surprisingly, most of the research on takeovers over time focuses on the volume of activity. Mainstream studies by academic researchers concentrate on the causes and effects of takeovers on corporate performance, neglecting any systematic analysis

SUSANNE TRIMBATH is an economist at the Milken Institute.

of institutional differences between takeover periods.

TIME IS NOT ON THE ECONOMIST'S SIDE

Generally, empirical studies in both economics and finance that have examined corporate control activity fall into two broad categories. The first type examines the characteristics of the firms that are taken over. These studies measure the impact of performance and other firm characteristics on the probability that a firm will receive an offer and/or eventually be taken over. The second examines the effect of takeovers either on the share prices of firms at the announcement of the takeover, or on the performance of combined firms after the takeover.

Examples of conflicting results are numerous. Typically, researchers attribute differences between their own conclusions and those of earlier studies either to methodology or to the choice of performance measures. An unusual set of three studies, however, used the same process in three separate periods and reported different results.

Krishna Palepu found some corporate performance measures to be significant determinants of the probability of takeover during 1971-79 (*Journal of Accounting and Economics*, 1986). Six years later, Brent Ambrose and William Megginson updated the sample used by Palepu and applied the same methodology and performance measures. Their study covering 1981-86 (*Journal of Financial and Quantitative Analysis*, 1992) reported that "none of the variables in the simple Palepu update were significant, and the overall model had negligible explanatory power and was not significant." The third paper by Mike Cudd and Rakesh Duggal (*The Financial Review*, 2000), once again followed the Palepu methodology using activity from 1987-91.

Cudd and Duggal, like Palepu, reported several performance measures as statistically significant determinants of the probability of takeover. We can only conclude, then, that the effect of the Palepu measures – various estimates of size, growth of sales, financial liquidity and leverage – on the probability of

Mainstream studies concentrate on the causes and effects of takeovers on corporate performance, neglecting any systematic analysis of institutional differences between takeover periods.

takeover changed with the passage of time.

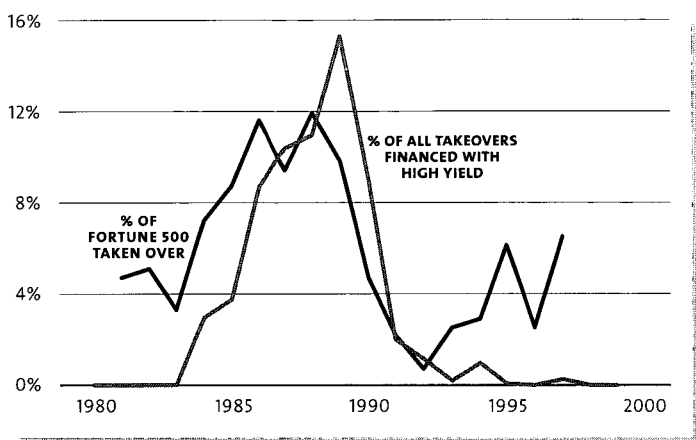
Size was a significant deterrent to the probability of takeover for the 1971-79 sample, not important for takeovers completed between 1981 and 1986, and important again for the 1987-91 takeovers. Other research buttresses the finding. Edward Herman and Louis Lowenstein (reprinted in *Knights Raiders and Targets*, edited by John Coffee, et al., Oxford University Press, 1988) measured firm size by the book value of assets in nominal dollars measured at the year prior to the takeover. Using a sample of firms from 1975-83, the average target had \$907 million in assets. However, breaking the sample into two periods showed substantial differences: the average target in 1975-78 had \$430 million in assets, while the average size of the sampled targets in 1981-83 was \$1,548 million.

By the same token, Ronan Powell reported

INSTITUTE VIEW

a statistically significant, negative relationship between size and the probability of takeover using a sample of U.K. firms from 1984-91 (*Queens University [Belfast] Working Paper*, 1994). Breaking the sample of takeovers into periods, size is not significant for the sub-

TAKEOVER VOLUME AND THE AVAILABILITY OF FINANCING FOR LARGE TAKEOVERS



sample from 1984-87 – but significant and negative for 1988-91.

In a sample of takeovers in the United Kingdom from 1967 to 1970, Ajit Singh found that the smallest quintile of firms faced a 3 percent risk of takeover, while the largest quintile had a 4.5 percent probability of takeover. This was a relatively active period of corporate control activity in the U.K. In a less active period, 1955-66, Singh reports takeover probabilities for the smallest and largest quintiles as 3.6 percent and 2.5 percent respectively. In other words, it would appear that the probability of takeover is higher for larger firms only during the more active period of corporate control activity. In addition, Roger Clarke and Christos Ioannidis (*Cardiff Business School Discussion Paper*, 1994) show that takeover volume in the U.K. is linked to

the availability of “excess deposits” in the financial sector.

AS TIME GOES BY

These findings support the view that changes in the risk-size relationship of takeovers are driven by changes in the availability of financing. The dynamics are explained in the Milken Institute Policy Brief, *High Yield Securities and Efficiency Enhancing Takeovers*.

For much of the 1980s, big firms proved juicier takeover targets. But around 1988, the statistical relationship evaporated – by no coincidence, when merger and acquisition activity financed with high-yield securities dried up. The exhibit shows a startling correlation between takeovers financed by high-yield debt and the percentage of Fortune 500 takeovers completed between 1981 and 1997

There are not such clear-cut examples of temporal changes in studies of the post-takeover performance of newly combined firms. However, in a 1997 study, Alan Gregory reproduced the methodology of six different studies using one sample of United Kingdom firms (*Journal of Business Finance and Accounting*). Measuring performance by stock returns, he found that the bidders in takeovers where the target firm was in a related industry did worse than those in unrelated takeovers in the 1960s, about the same in the 1970s, and better in the 1980s. The gap between returns for related and unrelated takeovers widened in the 1988-92 period.

Of course, stock returns more accurately measure changes in shareholder wealth than in firm performance. The Milken Institute Policy Brief, *A Tale of Two Decades*, examined

activity that occurred between 1985 and 1997. Because these dates include activity from two different periods of mergers and acquisitions activity, the authors performed separate analyses for each decade. Tender offers in takeover contests during the 1985-89 period clearly created shareholder value, though this value was transferred to shareholders of the acquired firm. Bidding shareholders experience a slight, though insignificant, value loss – that is, they paid a bit too much. The 1993-97 period exhibited greater gains to shareholders, and while most of these gains still ended up in the pockets of the shareholders of acquired firms, bidding firm shareholders received positive returns as well. The mergers and acquisitions environment of 1993-97 appears to be more profitable for all parties involved when compared to that of 1985-89. Bidding firms in particular have shifted from slight losers to clear winners in the market for corporate control.

TIME IN A BOTTLE

Ronald Reagan was a great source for economist jokes. In my favorite, the economist is asked “how much is two plus two?” The response: “how much would you like it to be?”

It is simply too easy to get the answers we want from the data we collect, using the theories we design. For this reason, it is especially important for economists to apply rigorous statistical methods. In the last 10 years, dynamic modeling techniques, which incorporate consideration of temporal changes in activity, have become easier to use. Software costing just a few hundred dollars and that run on desktop computers have made advanced statistical techniques accessible. And sometimes, the more complex the methodology, the simpler the interpretation.

If temporal differences are not accounted for, their presence can bias the estimators

used for the effect of performance measures. For three decades, most empirical studies reported that the probability of takeover was negatively related to firm size. Researchers concluded that large firms were less vulnerable, regardless of their performance. This called into question the ability of the market

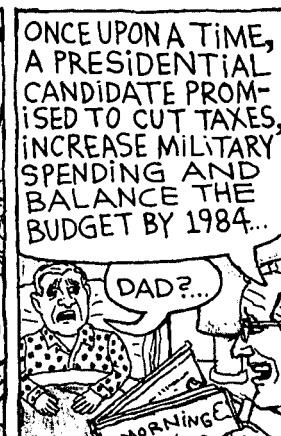
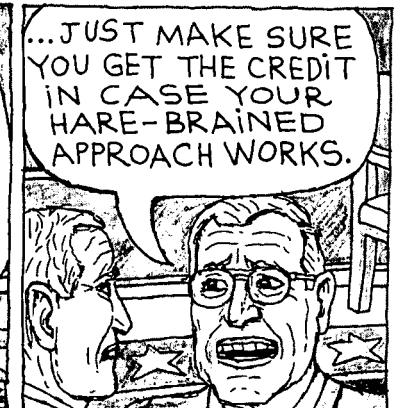
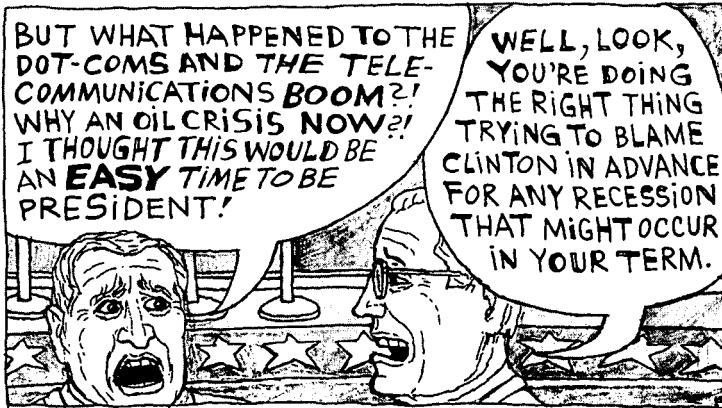
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to discipline large, inefficient firms with changes in corporate control.

But this generalization masked a subtler reality. Size became more of a deterrent after restrictions were placed on the use of debt for financing takeovers. When financing was readily available, changes in corporate control for even the largest U.S. firms brought with them enhancements in efficiency through the reduction of costs. Responding to market pressures to become more efficient in the 1980s, corporations sought to enhance revenue opportunities through changes in the control over the resources employed. Takeovers in the 1990s created even more value than takeovers in the 1980s. Economists cannot cling to the explanations based on the statistics of one point in time. **M**

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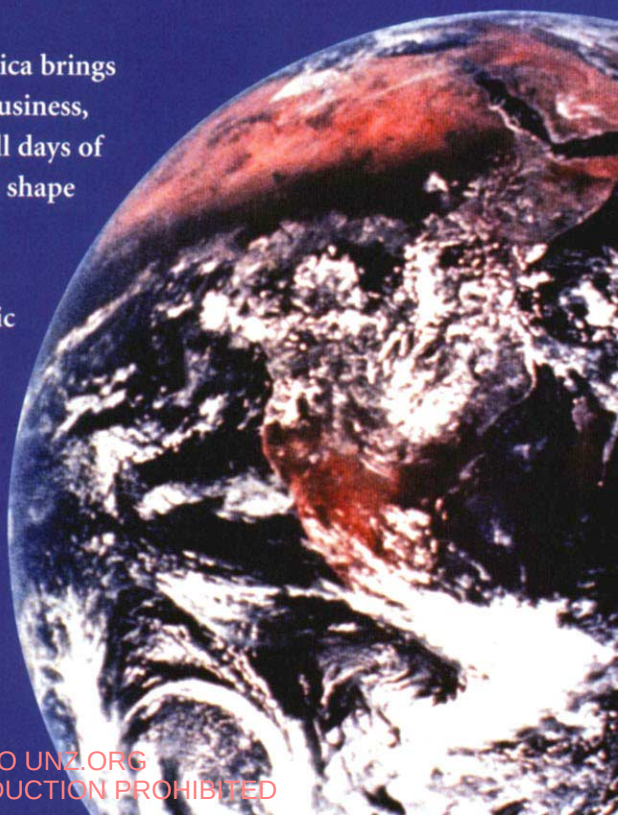
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On the new energy crunch.
Plenty of blame to go around.

PETER REUTER

On America's drug policy.
Have so many ever suffered for so little?

JAGADEESH GOKHALE AND LARRY KOTLIKOFF

On the budget surplus.
Eat, drink and be merry, for tomorrow we will pay.

BOB HAHN

On new conundrums in antitrust.
It walks and talks like a monopoly, but...

ED FEIGE

On the tax system.
A little dab will do ya.

ANDREW ZIMBALIST

On competitive balance in baseball.
Millions for players, not one cent for Milwaukee.

JIM ROHWER

On Asia's coming recovery.
American technology shall lead them.

ROBERT LEVINE

On America's economic advantage.
Sometimes risky behavior pays.

A cartoon strip by
MARK ALAN STAMATY,
creator of *The Washington*.